Joint Publication 3-60

Joint Targeting

20 September 2024

PREFACE

1. Scope

This publication provides doctrine for joint targeting.

2. Purpose

This publication has been prepared under the direction of the Chairman of the Joint Chiefs of Staff (CJCS). It sets forth joint doctrine to govern the activities and performance of the Armed Forces of the United States in joint operations, and it provides considerations for military interaction with governmental and nongovernmental agencies, multinational forces, and other interorganizational partners. It provides military guidance for the exercise of authority by combatant commanders and other joint force commanders (JFCs) and prescribes joint doctrine for operations and training. It provides military guidance for use by the Armed Forces of the United States in preparing and executing their plans and orders. It is not the intent of this publication to restrict the authority of the JFC from organizing the force and executing the mission in a manner the JFC deems most appropriate to ensure unity of effort in the achievement of objectives.

3. Application

a. Joint doctrine established in this publication applies to the Joint Staff, combatant commands, subordinate unified commands, joint task forces, subordinate components of these commands, the Services, the National Guard Bureau, and combat support agencies.

b. This doctrine constitutes official advice concerning the enclosed subject matter; however, the judgment of the commander is paramount in all situations.

c. If conflicts arise between the contents of this publication and the contents of Service publications, this publication takes precedence unless the CJCS, normally in coordination with the other members of the Joint Chiefs of Staff, has provided more current and specific guidance, or the Secretary of Defense has directed otherwise. Commanders of forces operating as part of a multinational (alliance or coalition) military command should follow multinational doctrine and procedures ratified by the United States unless they conflict with this guidance. For doctrine and procedures not ratified by the United States, commanders should evaluate and follow the multinational command's doctrine and procedures, where applicable and consistent with United States law, regulations, and doctrine.

For the Chairman of the Joint Chiefs of Staff:

DAGVIN R.M. ANDERSON
Lieutenant General, U.S. Air Force
Director for Joint Force Development

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SUMMARY OF CHANGES
REVISION OF JOINT PUBLICATION 3-60
DATED 28 SEPTEMBER 2018

- **Clarifies the role of joint targeting in the competition continuum—particularly during competition and in armed conflict/war.**
- **Adds content to targeting in joint all-domain operations and global fires, and introduces the global target list into the joint targeting cycle.**
- **Adds content and clarifies procedures for targeting outside of assigned areas of responsibility and the use of the joint integrated prioritized target list.**
- **Addresses and clarifies the distinction between "deliberate targeting" and "dynamic targeting."**
- **Clarifies "target validation authority" and "target engagement authority."**
- **Updates and clarifies the roles and responsibility of the joint targeting coordination board.**
- **Updates and clarifies the joint fires element's targeting roles and responsibilities.**
- **Updates and clarifies information on the integrated tasking order.**
- **Adds content on civilian harm mitigation during joint targeting.**
- **Adds new Chapter IV, "The Future of Joint Targeting," with content on joint targeting considerations in the future operational environment.**
- **Modifies, adds, and removes terms and definitions from the *Department of Defense Dictionary of Military and Associated Terms.***

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- **Discusses joint force targeting responsibilities, targeting organizational structure, joint targeting integration and oversight, and federated targeting support.**
- **Provides an overview of the joint targeting cycle.**

Overview

Introduction

Joint targeting is the continuous, analytic, and integrative process of developing, selecting, and prioritizing targets and matching the appropriate response to them, considering command objectives, operational requirements, available capabilities, and the rules of engagement (ROE). It provides planners with access to detailed information on targets, supported by analytical reasoning linking targets to tasks in furtherance of a joint force commander's (JFC's) desired objectives and effects.

The Purpose of the Joint Targeting Process

The purpose of the joint targeting process is to create desired effects in the operational environment (OE) to support achievement of the JFC's objectives through the prioritization, integration, synchronization, and application of fires and other capabilities.

The joint targeting process integrates intelligence, information, and assessments with plans and operations to support the commander's decision making. The joint targeting cycle (JTC) provides a framework for joint targeting through the planning, preparation, execution, and assessment of subsequent target engagements.

Principles of Targeting

To be efficient, planners and targeteers should consider the following principles:

- **Objectives-based**
- **Effects-based**
- **Interdisciplinary**
- **Systematic**

Joint Targeting Within the Competition Continuum

JFCs strive to constantly integrate military actions and activities with the instruments of national power—diplomatic, informational, and economic—to achieve strategic objectives. Notably, the types of lethal or nonlethal effects the JFC may wish to generate vary with the OE. Within competition below armed conflict, the emphasis or focus should be on the creation of nonlethal effects that enhance and protect United States strategic objectives. The transition from cooperation to competition, or to armed conflict, calls for a robust process to analyze and prioritize large quantities of discrete targets that may require both lethal and nonlethal effects. JFCs understand that the objectives, intentions, capabilities, and limitations of all actors within the OE require the coordinated use of joint, interagency, and multinational means to create lethal and nonlethal effects.

The Relationship Between Targeting and Effects

Effects are the cumulative lethal and nonlethal results of target engagements. An effect is a change in the physical or behavioral state of a target element, target entity, target system component, or target system that results from an action, a set of actions, or another effect. The joint force executes an action that has lethal or nonlethal effects, and JFCs focus on selecting the appropriate action to create specific desired effects against chosen targets. Targeting is the process, and effects are the result of engaging targets.

Target Engagement Authority

At the operational level of warfare, the authority and responsibility to engage targets typically rests with the JFC responsible for the operational area (OA). The JFC normally communicates engagement criteria to the force through commander's intent and more specifically through ROE and special instructions. The JFC may delegate target engagement authority to subordinate

commanders. **This authority is separate and distinct from the weapons release clearance of an operator at the tactical level of warfare.** At the tactical level, the operator makes the final determination to engage a target in accordance with (IAW) ROE.

Target Description

A target is a discrete entity that performs a function for the adversary or enemy. JFCs consider various individual and groups of targets for possible engagement, contributing to achievement of the commander's objectives and intent.

Characteristics of Targets

Broad categories that help define the characteristics of a target are **physical; functional; cognitive, control, and informational; environmental; and temporal**.

Target Categories and Special Considerations

JFC Guidance and Intent. In coordination with the component headquarters (HQ) and supporting commands, the JFC, based on strategic guidance and operational objectives, sets priorities for attacking targets.

Sensitive Targets. Sensitive targets are those targets for which planned actions warrant Presidential or Secretary of Defense approval.

High-Value Targets (HVTs). An HVT is a target the enemy requires for the achievement of their objectives.

High-Payoff Targets (HPTs). An HPT is a target whose loss to the enemy significantly contributes to the success of the joint force.

Time-sensitive Targets (TSTs). A TST is a target or set of targets of such high importance to the JFC's objectives that the JFC dedicates or diverts intelligence assets and fires to engage it.

Component-Critical Targets. Component commanders can nominate HPTs that pose a threat to their mission or force for cross-component execution.

Roles and Responsibilities

Joint Force Targeting Responsibilities

JFC Responsibilities. The JFC establishes joint targeting organizations required to conduct planning, coordination, and deconfliction associated with the joint targeting process. The JFC determines the division of JTC responsibilities between the JFC's staff and the component commanders. The JFC provides the operational direction and guidance that focuses the joint planning and targeting processes that enable the conduct of joint campaigns and operations.

Joint Force Staff Responsibilities. Collaboration between the JFC's staff and the component targeteers and planners is essential to the successful execution of the JTC. Supporting and subordinate commanders should have their own processes that complement and support the supported JFC's targeting process. The supported JFC coordinates these various processes and delineates the responsibilities of each supporting and subordinate commander to support the JFC's targeting cycle. Although the JFC establishes the JTC battle rhythm, subordinate commanders and supporting commands should have the ability to nominate targets through the joint fires element (JFE) or the joint force air component commander's targeting effects team to the joint targeting coordination board or a similar staff function for consideration of their target nominations.

Component Commander Responsibilities. JFCs develop processes to coordinate joint and component deliberate targeting plans that ensure unity of effort and reduce duplication. In addition to target nomination lists, the component HQ provides the JFE with deliberate targeting information, including the component's target list that identifies targets to be prosecuted by organic forces within the respective component OA.

Targeting Organizational Structure

The joint targeting process crosses traditional functional and organizational boundaries. Personnel from the intelligence directorate of a joint staff (J-2), operations directorate of a joint staff, and plans directorate of a joint staff are the primary participants, but other subject matter experts, such as logistics, weather, legal, civil-military operations, and communications, also support the JTC. The organizational structure established by the

JFC should be functionally inclusive, responsive, and flexible enough to adapt to a range of situations. JFCs should arrange their joint targeting structure based upon the mission, enemy, OE, and available forces. Ultimately, the organizational design of the targeting process should be able to execute all phases of the joint targeting process efficiently and continuously throughout the competition continuum.

Joint Targeting Integration and Oversight

The JFC's primary targeting responsibility lies in establishing operational objectives in applicable plans and orders. From a targeting perspective, the JFC integrates and synchronizes the objectives component commanders should achieve throughout their OAs with their assigned, attached, and supporting forces. With the advice of subordinate component commanders and supporting commands, JFCs set priorities and provide clear targeting guidance within the OA. In a transregional or global conflict, multiple combatant commands (CCMDs) also need to integrate and synchronize lines of operation and effort against a peer adversary or threat.

Federated Targeting Support

A whole-of-government approach to target development and assessment can provide reachback support for the JFC and component commanders. Using this federated targeting support, the supported JFC works in conjunction with the National Joint Operations and Intelligence Center and Joint Staff J-2 [Intelligence], IAW the supported JFC requirements, to establish targeting support and assessment responsibilities between CCMDs. The J-2 normally ensures federated targeting support requirements are addressed in contingency plans and orders and assists in the dissemination of targeting support-related information between federated partners and the supported JFC.

The Joint Targeting Cycle

Activities

The JTC is a continuous process that occurs throughout military operations across the competition continuum. Deliberate targeting occurs during the planning for future operations. Dynamic targeting occurs during current operations to prosecute targets of opportunity, including unscheduled targets and unanticipated targets.

Deliberate and dynamic targeting may occur in both competition below armed conflict and armed conflict.

Targeting and Categories of Targets

Targeting is a process differentiated in time—**deliberate** and **dynamic.** While deliberate targeting focuses on a time horizon days or weeks out, dynamic targeting is focused on the near and current battle with a time horizon of hours. This time factor determines which type of targeting best supports the JFC's targeting requirements. Both categories of targeting deal with two different types of targets—planned targets and targets of opportunity.

The Joint Targeting Cycle

The JTC provides an essential framework to conduct the joint targeting process. It is composed of six interrelated phases which are neither rigidly sequential nor constrained by time:

- **Phase 1—Commander's Objectives, Targeting Guidance, and Intent**
- **Phase 2—Target Development and Prioritization**
- **Phase 3—Capabilities Analysis**
- **Phase 4—Commander's Decision and Force Assignment**
- **Phase 5—Mission Planning and Force Execution**
- **Phase 6—Combat Assessment**

Time-Sensitive Target Considerations

Objectives and Guidance for TSTs. Targets identified too late or not selected for action in time to be included in deliberate targeting are prosecuted using dynamic targeting. The JFC's objectives and guidance shape the basic procedural framework for component HQs to expedite the engagement of TSTs. Once this guidance is issued, the component HQ establishes planned and responsive procedures for engaging prioritized TSTs.

Dynamic Targeting Process

The dynamic targeting process is a condensed execution phase that is not determined by the type of target being engaged. During dynamic targeting, targets are prosecuted outside of the 24-hour integrated target order/air tasking order cycle using the condensed process of find, fix, track, target, engage, and assess.

CONCLUSION

This publication provides doctrine for joint targeting.

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CHAPTER I
OVERVIEW

1. Introduction

a. Joint targeting is the continuous, analytic, and integrative process of developing, selecting, and prioritizing targets and matching the appropriate response to them, considering command objectives, operational requirements, available capabilities, and the rules of engagement (ROE). It provides planners with access to detailed information on targets, supported by analytical reasoning linking targets to tasks in furtherance of a joint force commander's (JFC's) desired objectives and effects. In this joint publication (JP), use of the term "JFC" includes a combatant commander (CCDR), a subordinate unified commander, or the commander of a subordinate joint force. The use of "JFC" implies those duties, authorities, and responsibilities which are applicable to all three levels of joint command. Joint targeting helps integrate and synchronize fires with the other joint functions (command and control [C2], information, intelligence, movement and maneuver, protection, and sustainment) and focuses on creating effects against an adversary during competition or an enemy in armed conflict/war. Joint targeting occurs across the competition continuum. Regardless of whether the effects are lethal or nonlethal, the joint nature of the process requires extensive consultation between the Services, other commands, multinational forces, and intergovernmental partners. Not all military operations require joint targeting; however, a careful analysis and understanding of the strategic environment, the operational environment (OE), the JFC's guidance and intent, as well as an extensive mission analysis, is always necessary. The focus of targeting should be on achieving the JFC's objectives rather than simply servicing a list of targets on basing targeting decisions on the availability of particular weapons, platforms, or systems.

b. Targets are logically and causally linked to objectives, effects, and tasks at all levels of warfare—strategic, operational, and tactical. From a commander's perspective, tactical operations and activities should be linked to operational and strategic objectives so a joint operation forms a logical chain of cause and effect. Linking targets to the objectives, tasks, and effects establishes a baseline for measuring plan readiness and once executed, provides a metric of success to the overall campaign.

c. Historically, joint targeting efforts have focused exclusively on armed conflict within the JFC's operational area (OA). However, those regional perspectives have largely been replaced by global and transregional perspectives throughout the competition continuum. Combatant command (CCMD) targeting efforts, especially in competition, are increasingly broadening their perspectives by emphasizing cyberspace operations, space operations, electromagnetic spectrum (EMS) operations, and information activities. Such efforts require support from other CCMDs, the Services, and interorganizational partners.

d. As the CCDR or subordinate unified commander define the joint operations area (JOA) and set the theater for military operations, they refine or begin target identification, development, prioritization, and analysis in accordance with (IAW) existing operation plans (OPLANs), contingency plans (CONPLANs), or operation orders (OPORDs) and other guidance. Alternatively, understanding the enemy's all-domain capabilities, posture,

and likely course of action (COA) drives targeting. An understanding of what, when, and where a JFC must target enemy capabilities to survive and succeed informs current and future concepts of operations. Intelligence processes provide this all-domain analysis and awareness of the enemy. The joint targeting cycle (JTC) provides the JFC and staff with an analytic and structured framework to conduct joint targeting. The JTC is an interrelated set of processes to identify, develop, and prioritize targets for engagement. The JTC assesses the risk to the mission posed by engaging or failing to engage those targets. Within the JTC, responsible headquarters (HQ) assign the appropriate force, engage, and then assess the results. The JTC integrates the intelligence with joint planning and execution of joint campaigns and operations and provides the flexibility to inform, enable, and support the JFC's intent and concept of operations (CONOPS) as threats and opportunities appear within an evolving OE.

For more information on the JTC, see Figure III-2 in Chapter III, "The Joint Targeting Cycle."

e. The joint force increasingly benefits from capabilities to create effects against an adversary or enemy using a variety of lethal and nonlethal means. JFCs employ lethal capabilities, such as bombs, missiles, and artillery, and augment or amplify by other capabilities to produce desired effects. Additionally, JFCs employ nonlethal capabilities in space, cyberspace, the EMS, and the information environment, and their effects can be lethal at the second and third order.

f. To preserve unity of command, the JFC determines priorities, effects, and timings within the OA regardless of the source of those capabilities.

SECTION A. TARGETING

2. The Purpose of the Joint Targeting Process

The purpose of the joint targeting process is to create desired effects in the OE to support achievement of the JFC's objectives through the prioritization, integration, synchronization, and application of fires and other capabilities. Mission analysis provides a deep understanding of the threat, its capabilities, posture, likely COA, and informs the JFC's decision making. With this understanding of the OE and the nature of the mission, the JFC provides objectives, intent, and planning guidance to focus and guide joint planning and achieve the operational objectives that support the strategic objective (e.g., compelling an adversary to modify behavior or defeating an enemy).

a. The joint targeting process integrates intelligence, information, and assessments with plans and operations to support the commander's decision making. The JTC provides a framework for joint targeting through the planning, preparation, execution, and assessment of subsequent target engagements.

b. The joint targeting process also links desired effects on discrete targets using specific joint capabilities. Targeting systematically analyzes and prioritizes targets for engagement to create specific lethal and nonlethal effects. The product of the JTC is an action, engagement, or attack that has specific effects (see Figure I-1).

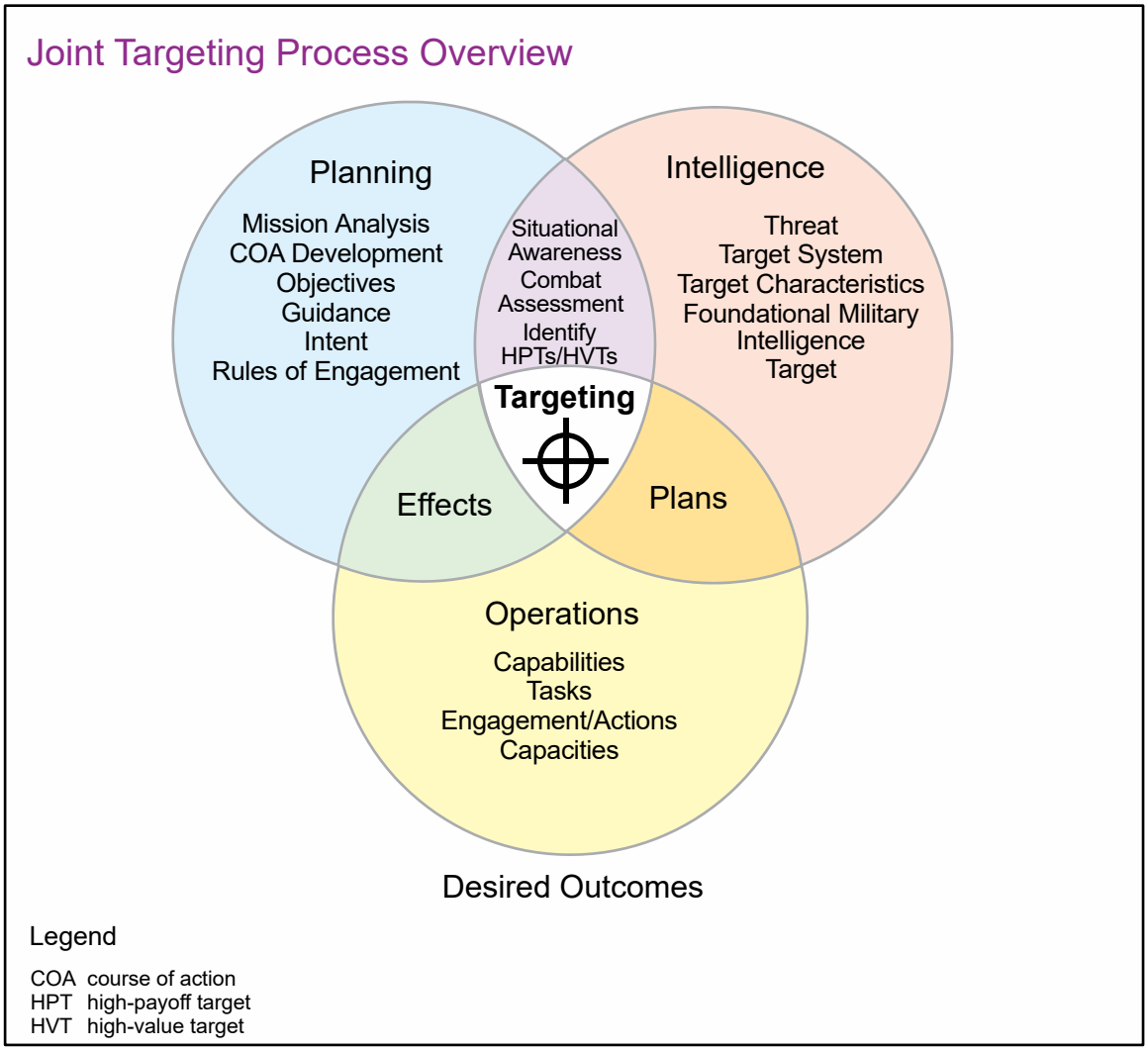

Figure I-1. Joint Targeting Process Overview

c. Effective joint targeting minimizes undesired effects, potential for civilian harm and other collateral damage, and inefficient actions during military planning and operations. Throughout the joint targeting process, planners recognize and mitigate any potential cognitive biases that may adversely impact targeting, planning, and execution. The joint targeting process:

(1) Complies with JFC objectives, intent, and guidance, and provides a common perspective on all targeting efforts performed in support of the commander.

(2) Focuses on creating effects to achieve the JFC's objectives. Enables JFCs to prioritize and sequence the most important, threatening, and opportunistic targets (high-value targets [HVTs], high-payoff targets [HPTs], time-sensitive targets [TSTs]) within the CONOPS.

(3) Coordinates, integrates, synchronizes, and deconflicts target engagement; reduces duplicate efforts; and fully integrates all available target engagement capabilities (i.e., all means to create lethal and nonlethal effects).

(4) Assesses foreseeable incidental effects, and minimizes friendly fire and collateral effects (e.g., civilian harm), including effects that degrade friendly credibility within the information environment.

(5) Complies with the ROE, law of war, and, if relevant, the legal framework within which multinational forces operate.

3. Principles of Targeting

The joint targeting process provides an important means to achieve the JFC's objectives by coordinating joint fires. The process accounts for the coordination and synchronization of joint fires and the collection capabilities necessary to confirm targets and conduct combat assessment (CA). The JFC leverages the joint targeting process to prioritize targets and coordinate, synchronize, and integrate fires to create the desired effects. To be efficient, planners and targeteers should consider the following principles:

a. **Objectives-based.** The joint targeting process is used to achieve the JFC's objectives. The JFC sets the parameters of that engagement through approved plans and orders, the operational limitations within those plans and orders, ROE, the law of war, and applicable international agreements. Every engaged target is linked to the JFC's operational objectives that link and lead to achieving the strategic objectives.

b. **Effects-based.** The art of targeting seeks to create desired effects while balancing risk against the expenditure of time and resources. The joint targeting process is concerned with the creation of specific lethal and nonlethal effects through target engagement. Target analysis considers all possible means to create effects and attempts to determine the risk of potential undesired effects.

c. **Interdisciplinary.** Joint targeting requires the participation of many disciplines across the joint force. It requires participation by all elements of the JFC's staff, the component commanders' staffs, combat support agencies, interagency partners, and multinational partners.

d. **Systematic.** The joint targeting process is designed to create effects systematically. The JTC provides a framework to methodically analyze, prioritize, and assign the capabilities of the joint force against targets, assess whether the desired operational effects were created, and determine if targets should be reengaged by the same or a different methodology to create the desired effect. In some cases, especially when the joint force is engaged in nonlethal activities in competition or irregular warfare, days, weeks, or months may be required to determine if the desired operational effects have been realized. In contrast, desired effects may be immediately observed in combat operations. In either case, the analysis of second- and third-order effects may take some time. Therefore, patience and continuous intelligence, surveillance, and reconnaissance of the target are necessary.

4. Joint Targeting Within the Competition Continuum

a. **The Joint Planning Process (JPP).** The JPP is the logical method a JFC uses to evaluate and solve missions. Despite the outward differences, planning for a campaign, a major operation, a contingency, or a crisis is essentially the same process completed under differing circumstances. The JPP remains essentially the same, albeit with flexible battle rhythms and a shifting emphasis based on the situation and the OE. This is the context within which a flexible joint targeting process occurs.

For more information on the JPP, see JP 5-0, Joint Planning.

b. **The Competition Continuum.** The joint force conducts military operations across the competition continuum. The competition continuum describes three broad categories of strategic relationships among the actors in the OE—**cooperation**, **competition below armed conflict,** and **armed conflict/war** (see Figure I-2). These categories distinguish relationships between the actors and clarify options for the use of military force within each context.

c. The joint force campaigns through an OE of cooperation, competition below armed conflict/war, and armed conflict to achieve the desired strategic objectives. Cooperation occurs between allies and partners in pursuit of policy objectives over time. Competition below armed conflict occurs when one actor chooses to challenge the status quo or existing norms, while another chooses to resist. Armed conflict occurs when military forces take actions against an enemy in hostilities or a declared war. These strategic relationships can, and often do, occur simultaneously within a CCMD area of responsibility (AOR) or the

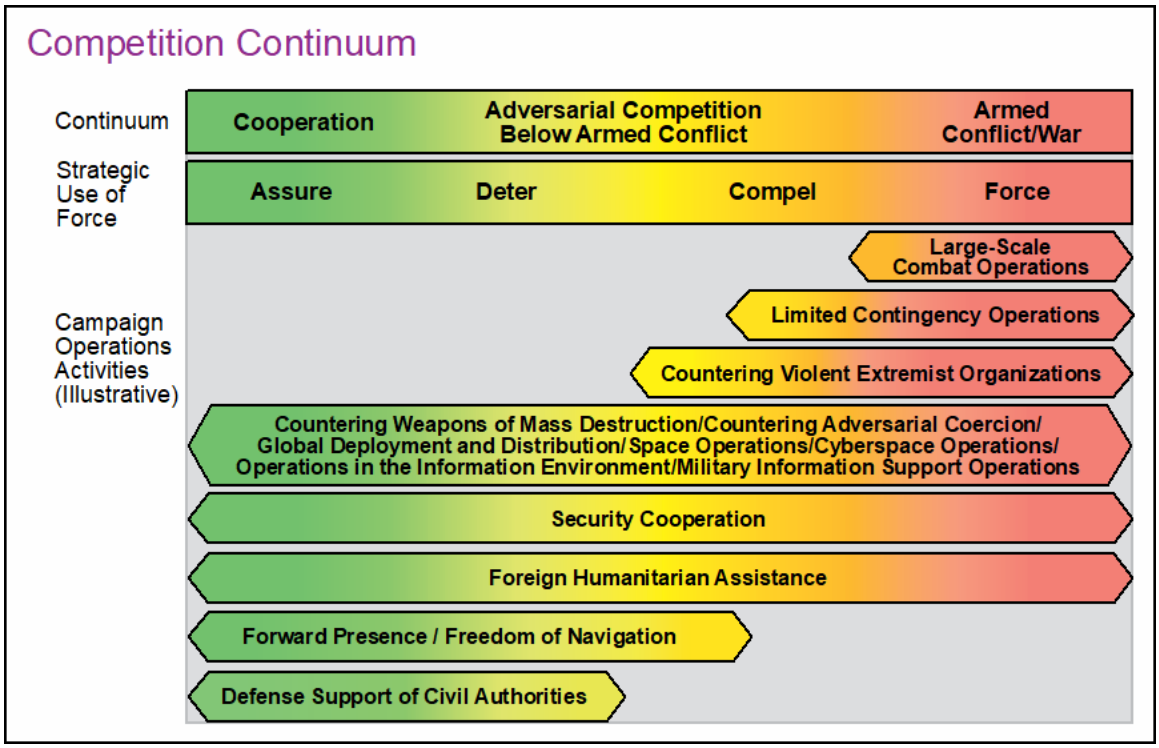

Figure I-2. Competition Continuum

JOA of a JFC. Within cooperation, a feature of nearly every significant military action, the joint force rarely operates unilaterally in any significant campaign or operation. In an interconnected world, there are few circumstances in which a major joint force activity does not have some ramifications for competition with at least one global or regional rival of the United States. Cooperation and competition are always occurring, and the presence or absence of armed conflict is normally the only variable.

d. JFCs strive to constantly integrate military actions and activities with the instruments of national power—diplomatic, informational, and economic—to achieve strategic objectives. Notably, the types of lethal or nonlethal effects the JFC may wish to generate vary with the OE. Within competition below armed conflict, the emphasis or focus should be on the creation of nonlethal effects that enhance and protect United States (US) strategic objectives.

e. The transition from cooperation to competition, or to armed conflict, calls for a robust process to analyze and prioritize large quantities of discrete targets that may require both lethal and nonlethal effects. JFCs understand that the objectives, intentions, capabilities, and limitations of all actors within the OE require the coordinated use of joint, interagency, and multinational means to create lethal and nonlethal effects. JFCs conduct deliberate targeting during competition in anticipation of large-scale combat operations. Deliberate targeting in competition supports future planning for combat operations in the initial hours and days of a crisis. Ideally, the JFC accomplishes much of the targeting effort before a crisis.

f. A characteristic of competition below armed conflict are the challenging contests for influence, advantage, and leverage. Many aspects of these challenges and antagonistic behaviors are undeterrable. Therefore, throughout execution of CCDRs' campaign plans, analysis of coercive options demands a careful knowledge of the adversary's value system. Senior civilian and military leaders seek to know what an adversary deems vital and how much pressure they will endure before parting with it. Intelligence identifies, nominates, and provides the targets that provide the highest likely hood of success if prosecuted. JFCs align the military actions against the targeted values and interests of a higher priority to the adversary than their objectives for a particular disputed contest. In coercing behavior, success depends on making the costs of nonperformance undesirable enough to convince the adversary to adjust. Effective targeting is essential for prevailing in contests for influence and leverage. The JTC and targeting – both deliberate and dynamic are just as essential for competition below armed conflict as they are for armed conflict.

g. During campaigns and operations, the joint targeting process supports three distinct but overlapping planning horizons—future plans, future operations, and current operations. The joint force battle rhythm and the JFC's decision cycle are two factors that affect planning in these horizons. The joint targeting process should be integrated into the JFC battle rhythm. Once the JFC's battle rhythm is published, the components should nest or align their targeting events for timely support.

For more information, see JP 3-0, Joint Campaigns and Operations.

h. **Targeting in Joint All-Domain Operations (JADO).** JFCs and their staffs use the joint targeting process to integrate joint capabilities and synchronize the execution of appropriate fires with movement and maneuver and other joint functions through the JTC. Commanders conduct targeting using all available tools to create effects in all domains and environments to achieve their objectives. Through the JPP, the JFC integrates capabilities of functional components and supporting commands according to a coordinated plan to create lethal and nonlethal effects. The development of targets and their prioritized selection is based solely on the JFC's objectives.

i. Through the full range of active plans and orders, the JFC provides targeting guidance and priorities, objectives, tasks, and desired effects. While capabilities in the OE are not always robust, targeting is required to ensure targets are developed and aligned to the commander's objectives throughout the OE. The JFC provides additional guidance in each operational phase by defining what, when, and where effects are desired (e.g., degrade, disrupt, delay, suppress, neutralize, destroy, or influence). In addition, the JFC provides guidance on the use of joint capabilities and their restrictions through the joint target list (JTL), the restricted target list (RTL), the no-strike list (NSL), the joint integrated prioritized target list (JIPTL), and, when applicable, the global integrated target list (GITL).

j. The JFC uses joint intelligence preparation of the operational environment (JIPOE) products in the JPP to develop COAs, lines of operations or effort, and subsequent OPORDs. Staffs use products derived from the JIPOE process, country assessments, and other intelligence products to inform target system analysis (TSA) and detailed target development in support of the JFC's objectives.

k. The JFC's OPLAN or OPORD provides broad guidelines for prioritizing targets, making clear which target sets or target systems are most important to the operation. These OPLANs and OPORDs should also guide the sequencing of effects, an action separate and distinct from establishing the "priority of effects." Although creating parallel effects is generally best, some targets must be engaged sequentially to enable effects against other targets. In a transregional or global conflict, multiple JFCs may execute multiple OPLANs in multiple OAs. The complexity of such campaigns and operations requires Secretary of Defense (SecDef) strategic direction to multiple CCDRs in multiple AORs to prioritize their targeting effects and the synchronization of their joint fires.

For more information on joint planning and the competition continuum, see JP 1, Volume 1, Joint Warfighting; *JP 3-0,* Joint Campaigns and Operations; *and JP 5-0,* Joint Planning. *Refer to JP 3-33,* Joint Force Headquarters, *for further information on executing joint force headquarters (JFHQ) operations. For more information on JIPOE, see JP 2-0,* Joint Intelligence, and the Joint Guide for Joint Intelligence Preparation of the Operational Environment.

l. **Global Integration.** The global integration of joint forces requires three mutually supporting pillars—a supported/supporting command relationship, the existence and active use of a GITL, and comprehensive strategic guidance drafted by the Joint Staff (JS) and promulgated by SecDef. These pillars support joint fires and targeting worldwide. However, they are informed by the limitations imposed by Title 10, United States Code;

statutory restrictions; and the requirement that commanders of all OAs are responsible for the priorities, effects, and timing of operations and fires within those areas. The GITL is an adversary-centric, rather than a geographically oriented, target nomination list (TNL). The GITL serves as a mechanism for injecting external target nominations into another CCDR's internal JTC. Since actions in one part of the world can have global effects, the GITL is the face of global integration as envisioned by the *National Security Strategy*; JP 1, Volume 1, *Joint Warfighting*; and JP 3-0, *Joint Campaigns and Operations*.

(1) **The joint targeting process is the same for global, transregional, or AOR-specific targets.** A target does not necessarily have to be in a commander's OA for the effects of engagement against that target to be realized within the OA. Similarly, in a global campaign, targets are dispersed worldwide outside of a supported commander's AOR. A supported or supporting commander nominates those targets to the GITL. Thus, multiple CCDRs acknowledge and consider global targets for prosecution within their AOR. Advanced and timely coordination between CCDRs is essential. Disagreements between the supported and the supporting CCDRs on the timing, effects, or targets on the GITL should be communicated promptly between commands. Where disagreements persist, SecDef resolves the conflict.

(2) **Targets Outside of a Supported CCDR's AOR.** Supported CCDRs are responsible for developing and submitting target nominations to the GITL, thus emphasizing that out-of-AOR targets may support global operations. In this case, a supported CCDR is responsible for target development and nomination. It is the responsibility of the supporting CCDRs, aware that targets within their AOR have strategic or transregional significance, to consider and prioritize those targets for their own JIPTLs.

(3) **Targets Inside of a Supported CCDR's AOR.** Supported CCDRs are able to prosecute their JIPTL with available resources or they require global and transregional support to mass fires on a single target or a set of targets within their AOR. When supported CCDRs need assistance from the joint force for prosecution, they request fire support from appropriate CCDRs and SecDef. Supporting CCDRs may provide, or be directed to provide, support as available. More likely, however, SecDef promulgates strategic direction through the Chairman of the Joint Chiefs of Staff to direct out-of-AOR fires or the movement of combat forces from one theater to another.

(4) **Targeting in Multiple AORs Simultaneously.** For global threats that extend beyond or transcend CCMD AORs, establishing global fires requirements, coordinating, and creating effects between CCMDs requires a great deal of collaboration and coordination. In cases where multiple CCDRs attack the enemy in multiple AORs simultaneously, SecDef guidance drives prioritization of CCDRs' JIPTLs and timing of each CCDRs' operations to create effects on the prioritized targets. In these cases, CCDRs supporting and supported relationships enable coordination and integration of global fires. These relationships enable the coordination of global forces in time and tempo across multiple AORs to meet SecDef's intent for prioritization and timing. The prosecution of global effects seeks to optimize the effectiveness of global fires while mitigating the risk to friendly forces.

(5) In all situations, the joint targeting process functions as designed. CCDRs adhere to AOR boundaries as established in the *Unified Command Plan*. The *Unified Command Plan* intends the AOR boundaries to provide CCDRs the ability to work together and the authority to control the execution in support of the priorities, timing, and effects of fires, whether they initiate within or from outside the AOR. In these situations, fires originating from outside an AOR are considered global fires.

5. The Relationship Between Targeting and Effects

a. Effects are the cumulative lethal and nonlethal results of target engagements. An effect is a change in the physical or behavioral state of a target element, target entity, target system component, or target system that results from an action, a set of actions, or another effect. The joint force executes an action that has lethal or nonlethal effects, and JFCs focus on selecting the appropriate action to create specific desired effects against chosen targets. Targeting is the process, and effects are the result of engaging targets. There are different ways to categorize effects, and each characterization is an essential element of the JTC and should be understood by all.

b. The joint force can create effects across all levels of warfare and throughout the competition continuum. The ways and means associated with joint targeting result in tactical-level effects. However, the cumulative results of these target engagements contribute to the JFC's desired operational and strategic effects.

c. The term "effects" relates to targeting in three phases of the JTC—phase 1 (commander's objectives, targeting guidance, and intent), phase 3 (capabilities analysis), and phase 6 (CA). In phase 3, the desired effect of engaging the target at the target element level is described, and the undesired operational effects (e.g., collateral effects) for that target engagement method are estimated. Post-engagement, or during phase 6 (CA) of the JTC, the JFC staff assesses the expected lethal and nonlethal effects.

See Chapter III, "The Joint Targeting Cycle," for a full description of the JTC.

For more information, see Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3370.01, (U) Target Development Standards.

d. **Desired and Undesired Effects.** A desired effect is a condition that supports the achievement of an associated objective. Similarly, an undesired effect is a condition that inhibits progress toward the objective of a joint operation. The JFC, component commanders, and their staffs consider undesired effects (which may trigger branches and sequels) in COA and CONOPS development. In some cases, operations can be adjusted to prevent undesired effects. Desired and undesired effects should be clearly communicated to ensure those effects are created or avoided. An improperly or incompletely stated effect, especially one that does not clearly link the effect to be created with the objective to be achieved, can result in a successful target engagement that hits the designated target at the designated time but still does not achieve the operational or tactical objective.

e. **Lethal and Nonlethal Effects.** The most significant categorization of effects in this process is the differentiation between lethal and nonlethal effects. A lethal effect, such as that created by a torpedo attack against a major naval combatant, is one in which there is intentional risk of loss of life or damage to equipment, infrastructure, or networks, such that near-term reconstitution would be difficult to impossible. In other words, the equipment, infrastructure, or network cannot perform its function or be repaired in time to rejoin the current engagement. A nonlethal effect, such as an information activity against a belligerent, normally does not involve the loss of life or destruction of infrastructure and may be reversible; it can also be used to achieve the JFC's objectives. Nonlethal effects can reduce risk to civilians, improve the effectiveness of friendly maneuver, and limit reconstruction costs.

(1) These effects are separate and distinct from the ways by which they are created. Traditionally, planners may think of such things as guns or bombs to attack a target. However, attacking a bridge with lethal means may have both lethal and nonlethal effects (i.e., the bridge is destroyed [the lethal effect], while the population must reorganize its economic patterns [the nonlethal effect]). Similarly, an attack using other means such as electromagnetic and cyberspace attack might have significant nonlethal effects, yet still inadvertently cause fatalities because of a breakdown in emergency services or other systemic failures.

Many combatant commands and tactical headquarters still use the terms kinetic and non-kinetic in their planning. However, this publication and joint doctrine focus on lethal and nonlethal effects.

(2) It is for this reason this doctrine focuses exclusively on the planning and creation of lethal and nonlethal effects. The effect, regardless of how it is created, is agnostic to the means used to create such effects.

f. **Direct and Indirect Effects.** While the lethality of an effect can often be differentiated, other characteristics also bear on the significance or importance of a target and the way it is engaged or attacked. Such engagements can have both direct and indirect effects.

(1) **Direct effects** are the immediate, and usually easily recognizable, first-order consequences of a military action or attack (weapons employment results), unaltered by intervening events or mechanisms. Lethal direct effects are almost always readily apparent, but nonlethal direct effects may not be easily recognizable, sometimes requiring higher-order effects to become apparent.

(2) **Indirect effects** are the delayed or displaced second- and third-order consequences of action created through intermediate events or mechanisms. These outcomes, including those on the civilian population, other relevant actors, and infrastructure, may be physical or behavioral in nature. Indirect effects may be difficult to recognize due to subtle changes in system or human behavior that may make them difficult to observe. For example, the indirect effect of destroying an operational C2 node may be

the degradation of the enemy's combat capability. Similarly, the destruction or disruption of an enemy's air defenses in a maritime area of operations may inhibit the success of an enemy amphibious operation by denying them freedom of action. Effects such as these have real benefits but may be more difficult to assess and measure individually or systemically in the short term. Although a factor for consideration, the difficulty of post-engagement assessment should not be the primary factor for choosing whether to create direct or indirect effects.

g. **Cumulative Effects.** Effects can compound over time, producing greater outcomes than the sum of the individual engagements or actions. For example, interdicting a deep water port may not have immediate effects on the front, but its loss to the enemy will have cumulative effects over time. Continuous monitoring of the OE, especially in the information environment, is critical to understanding the cumulative effects of a particular action.

h. **Cascading Effects.** Effects can ripple through a target system in ways that influence other systems. The impact of a single event can often be magnified over time and distance that greatly exceeds the span of the direct effect from that one event. This typically occurs after engaging critical nodes and links that are common to related systems. The cascade of effects, as the term implies, usually flows from higher to lower levels. As an example, the destruction of an HQ element of a fielded force may often result in the reduction of combat power by subordinate tactical units or deactivating a sensor via remote access may eventually compromise the output of an automated process. In competition, a nonlethal example might be engaging the financial operations of a threat network. The cascading effect could be the successive loss of an enemy's ability to access the network, utilize its software to deploy ransomware, receive funds, and then ultimately to finance its efforts.

For more information on counter threat finance, see JP 3-25, Joint Countering Threat Networks.

i. **Unintended Effects.** While estimating outcomes is rarely an exact process, it becomes increasingly difficult as counterproductive effects continue to compound and cascade through targets and target systems. The injury or collateral damage to persons or structures unrelated to the intended target is an example of a counterproductive consequence. Conversely, some unintended effects may create opportunities the joint force can exploit to achieve its objectives. Unintended effects may also occur if pre-strike analysis was incorrect and the enemy's reaction differs from what was expected. Such a situation can complicate future operations (e.g., the enemy was expected to withdraw but counterattacked with their strategic reserve instead), or pre-strike TSA may have been incomplete, perhaps due to insufficient intelligence, resulting in a strike with undesired cascading effects. Pre-strike analysis may also miscalculate the perceptions or reactions of a local population or international public opinion, which could ultimately result in more restrictions on target selection or engagement. Planners and targeteers should consider second- and third-order effects, especially effects that may affect political-military relationships, during planning and assessment. These effects can best be analyzed when conducting the systems analysis associated with network engagement. The Doolittle Raid on Japan in 1942 intended to show that the United States could strike back at Japan while

boosting Allied morale. The unintended effects, however, were much greater than anticipated—Japan changed their strategy and devoted more resources to defend their homeland, it raised fears among the Japanese civilians, and it caused a significant increase in Japanese enciphered messages, which enabled the United States to achieve victory at Midway two months later.

6. Target Engagement Authority

At the operational level of warfare, the authority and responsibility to engage targets typically rests with the JFC responsible for the OA. The JFC normally communicates engagement criteria to the force through commander's intent and more specifically through ROE and special instructions. The JFC may delegate target engagement authority to subordinate commanders. **This authority is separate and distinct from the weapons release clearance of an operator at the tactical level of warfare.** At the tactical level, the operator makes the final determination to engage a target IAW ROE.

a. The JFC may retain target engagement authority or delegate it to subordinate commanders. Target engagement authority may vary by operational requirements over the course of a campaign or operation. For example, engagement authority may be centralized and retained at strategic levels above the JFC during the early and late phases of an operation but delegated during other phases of the same operation. This is especially true during large-scale combat operations. Target engagement authority may also be centralized at high levels during operations conducted in competition below armed conflict or for operations in space or cyberspace. Targeting engagement authorities can also be affected by extended operations under emission control. The need for emission control may force commanders to delegate some of these authorities to forces using mission-type orders. While joint fire support provides assigned commanders with an alternative to organic fires, nothing relieves the supported commander of the legal obligations associated with targeting.

b. Component commanders assuming target engagement authority are responsible for planning or coordinating targeting requirements, to include:

(1) Collection management support.

(2) Positive identification (PID) requirements.

(3) Combat identification (CID) requirements.

(4) Target coordinate mensuration and nonlethal reference point (NLRP) creation.

(5) Weaponeering and nonlethal capability development.

(6) Collateral damage estimation (CDE) and collateral effects estimation (CEE).

(7) Airspace management.

c. When delegated, target engagement authority and engagement criteria should be promptly disseminated to ensure subordinate commands and executing agencies employ fires consistent with the commander's intent and ROE.

For more information on target engagement authority, see JP 3-09, Joint Fire Support. *For more information on weapons release clearance, see JP 3-09.3,* Close Air Support.

SECTION B. TARGETS

7. Target Description

Joint doctrine incorporates the term "target" in numerous and disparate definitions in the DoD Dictionary. For example, Joint Publication 3-04, *Information in Joint Operations,* uses "target audience" for an individual or group selected for influence. The US Navy conducts freedom of navigation exercises during competition to influence a target audience. Reference the DoD Dictionary for all usage of the term "target" in joint doctrine.

A target is a discrete entity that performs a function for the adversary or enemy. JFCs consider various individual and groups of targets for possible engagement, contributing to achievement of the commander's objectives and intent. JFCs derive a target's importance from its function in relation to a system or center of gravity whose degradation contributes to achieving the commander's objective(s). JFCs direct targeting actions against military objectives. By their nature, these targets' location, purpose, or use, effectively contribute to the enemy's war-fighting or war-sustaining capability. A target's total or partial destruction, capture, or neutralization, under the existing circumstances constitute a definite military advantage. JFCs prioritize and engage targets in OAs using the JTC. Finally, JFCs typically group targets by entity types, such as facility, individual, virtual, equipment, and organization (also known as "FIVE-O" in the targeting community).

For more information on target entity types, refer to CJCSI 3370.01, (U) Target Development Standards.

8. Characteristics of Targets

Every target has distinct, intrinsic, or acquired characteristics that form the basis for target development. Broad categories that help define the characteristics of a target are **physical; functional; cognitive, control, and informational; environmental; and temporal**. Not all targets have every one of these characteristics.

a. **Physical Characteristics.** The characteristics or features that describe a target are generally discernible to one or more of the five senses or through sensor-derived signatures. The physical characteristics may shape or influence the selection of type and number of weapons, the weapon systems, and the methods or tactics employed. Examples of physical characteristics include:

(1) Location.

(2) Shape.

(3) Size or area covered.

(4) Appearance and possible concealment (outward form and features, including color).

(5) Number and nature of entities that make up the target as a whole.

(6) Dispersion or concentration of entities, including the breadth and depth of large formations in the land, maritime, air, or space domains.

(7) Reflectivity (e.g., of heat, light, sound, radar energy).

(8) Structural composition and degree of hardening.

(9) Cyberspace-related equipment/facilities.

(10) Electro-mechanical features.

(11) Electromagnetic signatures.

(12) Mobility characteristics:

(a) Fixed (unable to move).

(b) Transportable (operating from fixed locations but can be broken down and moved).

(c) Mobile (operating on the move or with a relatively short setup time).

b. **Functional Characteristics.** These characteristics describe what the target does and how it does it. They describe the entity and target system's function and how the entity or system operates, its level of activity, the status of its individual or systemic functionality, and, in some cases, its significance. Notably, functional characteristics are often difficult to discern. For example:

(1) Target use (i.e., military only, civilian only, or dual use). Identifying the use and purpose of an object, and whether collateral damage or collateral effects are expected, is directly relevant to determining whether a potential target is, from a legal perspective, a valid military target.

(2) Target status (state or condition [e.g., fully operational, degraded, or inoperative]).

(3) Degree, proportion, or percentage of functionality (e.g., functionality of a system 50 percent degraded).

(4) Materials the target requires to perform its function(s) (e.g., electrical power or war materials).

(5) Functional redundancy (i.e., can the function be performed elsewhere?).

(6) Ability to reconstitute or recuperate the target or its function.

(7) Self-defense capability.

(8) Target importance within the strategic structure, such as its role or its cultural importance.

(9) The nature or necessity of functional relationships. What is the nature of the connection between an individual or organization and others? If the target is an individual or organization, what other individuals or organizations are necessary to enable it to function? What role does the target have within the local OE?

(10) Target vulnerabilities (e.g., identification of potential aimpoints above ground, natural ventilation, exposure of critical infrastructure, dependence on above-ground functions or underground facilities, or the vulnerabilities in the software design of a virtual target).

(11) Target capabilities (e.g., embedded air defense capabilities in large, mechanized formations).

c. **Cognitive, Control, and Informational Characteristics.** As with functional characteristics, cognitive, control, and informational characteristics can be difficult to identify and evaluate for tasks and target recommendations. These characteristics describe where and how individuals, groups, or automated systems process, perceive, judge, and make decisions. Some targets do not have cognitive, control, and informational characteristics (e.g., a concrete bridge, a fuel dump, an airport runway and aprons). Many factors influence these characteristics. In cases where the entity is an individual, cognitive characteristics describe that person's perceptions and attitudes or how that person's will and decisions could be influenced. If a target is virtual, cognitive characteristics describe data storage, transmission, information processing, virtual capabilities, and system vulnerabilities. Since nearly every target system possesses some central control function, cognitive and informational characteristics are particularly important to properly assess critical nodes of a target system. Thus, neutralizing control functions may be crucial to bringing about desired changes in behavior. Cognitive, control, and informational characteristics could potentially be exploitable as follows:

(1) How the target thinks (to include sources of influence and motivation).

(2) Target ability and capacity to process, store, and protect information.

(3) Target decision process (to include span of control).

(4) Inputs the target requires to perform its function(s).

(5) Process outputs resulting from target functions, including information dissemination and control functions.

(6) Target patterns and signatures.

(7) Cultural considerations (to include identity, societal norms, motivations, morals, educational levels, perceptions, attitudes, ideological factions, and affiliations).

(8) Redundancy of control functions.

(9) Social and economic considerations where destruction of the intended target (e.g., markets, bridges) could give hostile actors leverage over the populace.

d. **Characteristics of the OE.** The following characteristics describe the effect of the OE on the target and may also help determine the methods necessary to affect or observe them:

(1) Atmospheric or exoatmospheric conditions affecting the target (e.g., weather, including temperature, visibility, and solar activity).

(2) Geography and terrain features (i.e., landform, vegetation, soil, and elevation).

(3) Denial and deception measures.

(4) Physical relationships to people or things that might complicate targeting (e.g., proximity to civilians, civilian structures, combatants that are no longer fighting, or friendly forces, and for maritime targets, proximity of target to land).

(5) Dependencies such as raw materials, energy, water, personnel, and C2.

(6) Specialty or unique environments, such as cyberspace, undersea, or space that have exceptional or harsh environmental influences on both the target and potential engagement systems.

e. **Temporal Characteristics.** Time, as a characteristic of a target, describes the target's vulnerability to detection, engagement, or attack in relation to a time horizon. Many targets may be fleeting, and some may be critical to friendly operations. For example, a knowledge of enemy capabilities, combined with the knowledge of a target's patterns (i.e., a target's temporal characteristics) and communications delays inherent in the system (information latency), help planners recommend suitable COAs. Factors contributing to the temporal characteristics of a target include:

(1) **Time of Appearance.** The time the target is expected to appear in the designated OA.

(2) **Dwell Time.** The length of time a target is expected to remain in one location, which can be directly related to the physical characteristic of target mobility. Generally, a mobile target is more difficult to find, fix, or engage.

(3) **Time to Target Functionality.** The length of time required for the target to become operational, to conduct its mission, or to reconstitute.

(4) **Identifiable Time.** The length of time a target is identifiable as an adversary or a threat before it becomes indistinguishable from other objects in the OE.

(5) **Cyclic Nature of Activity on the Reduction of Collateral Damage.** The periods when there may be fewer civilians and other noncombatants in and around the target area.

(6) **Predicted Time to Target.** The predicted length of time of target vulnerability in an engagement zone or kill box.

9. Target Categories and Special Considerations

a. **JFC Guidance and Intent.** In coordination with the component HQ and supporting commands, the JFC, based on strategic guidance and operational objectives, sets priorities for attacking targets. As the campaign or operation progresses, JFC target priorities may change due to the dynamic nature of the OE. Priorities also change as the joint force transitions to and from adversarial competition.

(1) Because engaging a target could create unintended effects, certain targets may require special consideration and caution. Examples include targets that should be handled with sensitivity due to potential diplomatic repercussions. Targets may also be in areas posing a high risk of collateral damage, such as storage facilities for weapons of mass destruction (WMD).

(2) The use of joint force capabilities that create nonlethal effects below the use of force requires the same special considerations. While these capabilities may reduce the potential for death and physical destruction, their improper or untimely use may also have unintended consequences, including collateral effects, that are detrimental to achieving the JFC's objectives.

b. **Sensitive Targets.** Sensitive targets are those targets for which planned actions warrant Presidential or SecDef approval. Sensitive target criteria are normally delineated in plans, orders, or ROE by JFCs. Sensitive targets, which are typically on the RTL, may include those targets that, if struck, have a high probability of collateral damage, adverse political or diplomatic ramifications, environmental harm or hazard, or adverse public sentiment.

SENSITIVE TARGETS

To prevent Chinese troops and supplies from flowing into North Korea during the Korean War, General Douglas MacArthur proposed to destroy the bridges over the Yalu River between China and North Korea. President Harry Truman, considering the risk of escalating the war with China, did not approve their destruction.

Various Sources

See CJCSI 3122.06, (U) Sensitive Target Approval and Review (STAR) Process, *for more information on sensitive targets.*

c. **HVTs.** An HVT is a target the enemy requires for the achievement of their objectives. The loss of HVTs would be expected to seriously degrade important enemy capabilities or systems function throughout or beyond the enemy's OA. HVT lists should describe the relative value of each target, which vary under specific conditions and over the course of operations. Targets from this list should be nominated for target development or action. HVTs are generated during phase 2 (target development and prioritization) of JTC.

d. **HPTs.** An HPT is a target whose loss to the enemy significantly contributes to the success of the joint force. HPTs are normally derived from a list of HVTs. HPTs are also generated during phase 2 of the JTC. Due to their importance in support of the JFC's objectives, the JFC and the components prioritize these targets. TSTs and component-critical targets are usually special types of HPTs. At any level from the CCMD and below, the commander may approve an HPT list. This list identifies HPTs, by time and space, that are vital to the on-scene commander within a given OA to create effects that support achievement of tactical objectives.

e. **TSTs.** A TST is a target or set of targets of such high importance to the JFC's objectives that the JFC dedicates or diverts intelligence assets and fires to engage it. Consistent with the JFC's guidance, TSTs require an immediate response because they pose, or will soon pose, a direct danger to friendly forces or the broader OE. In some cases, TST locations are not initially known (e.g., mobile ballistic missile units or mobile air defense arrays) and must be located before being engaged. TSTs typically require detailed planning and preparation and direct coordination with component and supporting commanders. The JFC creates the hierarchy of importance for TSTs. CCDR's TSTs are AOR-/theater-wide, while a subordinate JFC's TSTs would only apply within their JOAs.

(1) The JFC-designated component commander synchronizes maneuver and fires, particularly interdiction assets, against TSTs within their targeting processes.

(2) The JFC may designate, prioritize, and accept high risk to engage TSTs that require immediate action whenever and wherever those TSTs are found. Examples might be a vessel carrying WMD or a sought-after enemy commander whose location was just identified. The acceptance of action with high risk must never violate the law of war. Only the JFC or designated authority validates a priority target or set of targets as TSTs after having assessed and accepted the higher risk necessary to engage such targets.

TIME-SENSITIVE TARGETS DURING OPERATION DESERT STORM

Commander, United States Central Command, and the joint force commander, General Norman Schwarzkopf, designated Iraqi SCUD missiles as time-sensitive targets because of their diplomatic and escalatory significance. Saddam Hussein attempted to use the SCUDs to divide the Arab allies and drag Israel into the war.

Various Sources

f. **Component-Critical Targets.** Component commanders can nominate HPTs that pose a threat to their mission or force for cross-component execution. These targets have similar characteristics as TSTs at the component and may be considered by the JFC as TSTs.

For more details on dynamic targeting, see Chapter III, "The Joint Targeting Cycle," and Army Techniques Publication (ATP) 3-60.1/Marine Corps Reference Publication (MCRP) 3-31.5/Navy Tactics, Techniques, and Procedures (NTTP) 3-60.1/Air Force Tactics, Techniques, and Procedures (AFTTP) 3-2.3, Multi-Service Tactics, Techniques, and Procedures for Dynamic Targeting.

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CHAPTER II
ROLES AND RESPONSIBILITIES

1. Joint Force Targeting Responsibilities

a. JFC Responsibilities

(1) While the JTC is described in Chapter III, "The Joint Targeting Cycle," this chapter outlines the responsibilities of the JFC's HQ to execute that process. Joint targeting is a command responsibility. The JFC establishes joint targeting organizations required to conduct planning, coordination, and deconfliction associated with the joint targeting process. The JFC determines the division of JTC responsibilities between the JFC's staff and the component commanders. The JFC provides the operational direction and guidance that focuses the joint planning and targeting processes that enable the conduct of joint campaigns and operations. In addition, JFCs:

(a) Direct the formation, composition, and specific responsibilities of the joint targeting coordination board (JTCB), joint fires element (JFE), or like bodies to perform the duties described in this chapter.

(b) Establish parameters for successful targeting within the JFC's OA by promulgating intent, objectives, guidance, sequencing, and priorities.

(c) When assigned as a supported commander, provide timely, broad, and clear targeting guidance to the joint force staff, Service component or joint functional component command HQ, supporting commands, and other relevant Department of Defense (DoD) and supporting agencies.

(d) Maintain the currency of mission planning guidance and intent and the priority of the commander's critical information requirements throughout the campaign or operation.

(e) Approve or delegate approval of the JIPTL developed from the component HQ, supporting commands, and JFC staff nominations.

(f) Include targets nominated by other CCMDs through the GITL for consideration in the JIPTL.

(g) Nominate targets outside their AOR on the GITL to the appropriate supporting CCMD.

(h) Define criteria for identification and engagement of TSTs in the OA. TST guidance may be accomplished through the JTCB or a similar body.

(i) Ensure the integration of lethal and nonlethal effects at all stages of target planning.

(j) In coordination with the Under Secretary of Defense for Policy and Chairman of the Joint Chiefs of Staff, identify in advance and seek, as appropriate, the delegated authorities required for employing information capabilities and activities in support of operations in the information environment across the competition continuum.

b. **Joint Force Staff Responsibilities.** Collaboration between the JFC's staff and the component targeteers and planners is essential to the successful execution of the JTC. Supporting and subordinate commanders should have their own processes that complement and support the supported JFC's targeting process. The supported JFC coordinates these various processes and delineates the responsibilities of each supporting and subordinate commander to support the JFC's targeting cycle. Although the JFC establishes the JTC battle rhythm, subordinate commanders and supporting commands should have the ability to nominate targets through the JFE or the joint force air component commander's (JFACC's) targeting effects team to the JTCB or a similar staff function for consideration of their target nominations.

For the targeting cycles of other components, see Field Manual 3-60, Army Targeting; *Air Force Doctrine Publication 3-60,* Targeting; *Navy Warfare Publication 3-09,* Navy Fire Support; *JP 3-05,* Joint Doctrine for Special Operations; *and Marine Corps Warfighting Publication 3-31,* Marine Air-Ground Task Force Fires and Effects.

For additional information regarding development of the draft JIPTL, see JP 3-30, Joint Air Operations.

(1) **Intelligence Directorate of a Joint Staff (J-2).** The J-2 prioritizes intelligence efforts, including collection, analysis, vetting, assessment, and production, for joint targeting activities. The J-2 staff conducts JIPOE, including analysis of possible enemy COAs, threat analysis, and assisting with the development of targeting guidance. Key functions and duties related to the joint targeting process are normally performed by the joint force deputy directorate for targeting, intelligence directorate (J-2T) as follows:

(a) Produces and maintains target intelligence products that meet the requirements of the commander. Target intelligence portrays and locates the elements of a target or target complex and indicates its vulnerability and relative importance. It is produced to identify, characterize, prioritize, and facilitate engagement of military targets. This cumulative intelligence is produced by the Defense Intelligence and Security Enterprise and other specific target support elements of the intelligence community (IC) and multinational intelligence organizations. Such intelligence includes entity-level basic, intermediate, and advanced target development data; TSAs; target materials; target lists; and target intelligence assessments.

(b) Conducts target development and manages federated support of target development.

See JP 2-0, Joint Intelligence, *and the* Joint Guide for Joint Intelligence Preparation of the Operational Environment *for more details on target intelligence. See also CJCSI 3370.01,*

(U) Target Development Standards, *and CJCSI 3505.01,* Target Coordinate Mensuration Certification and Program Accreditation.

(c) Identifies HVTs and HPTs with the operations directorate of a joint staff (J-3) and the JFE. Manages the candidate target list (CTL) and, as required, coordinates target vetting with the IC.

(d) Supports target validation and recommends targets for inclusion in the JTL/RTL based on all-source fusion analysis in the joint intelligence operations center (JIOC), the joint intelligence support element, component intelligence organizations, and federated partners.

(e) In coordination with the JFE, nominates targets from the GITL, JTL, and RTL for inclusion in the draft JIPTL.

(f) Develops and maintains the JFC's NSL in coordination with the component HQ, the JFE, and other federated partners.

(g) Manages theater collection priorities via the joint collection management board and maintains collection management liaison with the component HQ and the IC during execution. Coordinates collection in support of CA IAW collection priorities established by the JFC. Validates or modifies standing collection requirements submitted by subordinate joint force or component commands via component prioritized collection lists. All component prioritized collection lists received and validated by the CCMD collection managers are included in the joint integrated prioritized collection list.

(h) Assists in the development and management of priority intelligence requirements.

(i) Serves as lead for overall coordination and management of target intelligence assessments within the JIOC and the joint intelligence support element. Coordinates target intelligence assessments with the IC and provides intelligence gain/loss assessment on target nominations.

(j) Assists in the conduct of CA. Provides battle damage assessment (BDA), collateral damage assessment (CDA), munitions effectiveness assessment (MEA), and reattack recommendation.

(k) Provides target intelligence support to operations (e.g., target intelligence briefs, target materials, and CA).

(2) **J-3.** The J-3 assists the commander in the direction and control of operations. In this capacity, the directorate coordinates, integrates, and executes operations throughout the OA. The directorate also leads planning efforts for current and future operations. The joint operations center synchronizes and integrates joint operations at the operational level. The J-3 normally organizes and serves as the chair of the JFE and serves as co-chair of the joint collection management board. The J-3:

(a) Assesses the targets.

(b) Develops and maintains operational ROE in coordination with other staff elements, including the staff judge advocate (SJA), combat support agencies, and component HQ.

(c) Publishes the JFC's daily guidance, including objectives and targeting, recommendations for apportionment and distribution of joint assets, and guidance and prioritization of joint assets in support of targeting.

(d) Develops proposed force boundaries for OAs and coordination measures, including fire support coordination measures (FSCMs), for current and future operations, in coordination with the component commanders.

(e) Nominates candidate targets to the JFC or designated representative for development and validation.

(f) Provides targeting options for the JFC.

(g) Nominates targets for inclusion in the draft JIPTL. Submits CCDR target nominations to the GITL to create effects in another AOR.

(h) Manages the JTL, RTL, NSL, and AOR-specific GITL targets.

(i) Conducts MEA and assists in the conduct of CA.

(j) Provides restrike recommendations and other CA-related information pre-strike, during, and post-strike.

(k) Initiates and coordinates the sensitive target approval and review process.

(l) Acts as the office of primary responsibility for the JTCB or any similar group established to provide broad targeting oversight.

(3) **Logistics Directorate of a Joint Staff.** The logistics directorate of a joint staff identifies logistic issues unique or specific to targeting. In particular, the logistics directorate of a joint staff tracks critical munitions and their expenditure rates for the JFC's campaign or operation, including CONPLANs and branches and sequels to current and proposed future operations.

(4) **Plans Directorate of a Joint Staff (J-5).** The J-5:

(a) Publishes the JFC's long-range planning guidance and planning directives.

(b) Identifies branches and sequels to current and proposed future operations.

(c) As part of the JPP, develops, analyzes, compares, and recommends COAs for JFC approval.

(d) Develops contingency planning objectives and effects.

(5) **Civil-Military Operations Directorate of a Joint Staff.** The civil-military operations directorate of a joint staff, or a supporting civil affairs planning team, may include the civilian environment team and identifies civil considerations specific to targeting. It advises, in coordination with the SJA, on issues relating to the protection of civilians and protected sites. The civil-military operations directorate of a joint staff also advises on the use of all civil-military operations enablers to support the JFC's objectives.

(6) **SJA.** The SJA advises the JFC and other staff members on applicable authorities, international and domestic laws, legal customs and practices, multilateral and bilateral agreements with host nations, law of war issues, compliance and interpretation of the ROE, civilian harm mitigation and response, and other issues pertinent to the JTC. In particular, the SJA reviews target selection and force assignment for legal compliance and highlights such issues as civilian harm mitigation, potential harmful environmental impacts, and other consequences, that should be considered in the targeting process.

(7) **Public Affairs.** Public affairs is the principal advisor to the JFC regarding public perceptions of target prosecution and identifies potential second- or third-order effects that may be detrimental to JFC objectives.

(8) **Information Planners.** Joint information planners assigned to the staff enhance the JFC's ability to carry out information joint function tasks as they relate to planning, targeting, and execution.

(9) **Civilian Harm Mitigation and Response Officer.** The civilian harm mitigation and response officer advises the JFC and other staff members on considerations pertaining to the civilian environment and civilian harm mitigation. The officer ensures appropriate civilian harm mitigation products are prepared and incorporated into the joint fires planning process in the JFE and participates as directed in the JTCB.

c. **Civilian Environment Teams.** Civilian environment teams participate in the joint targeting and fires process and assist commanders in understanding the effects of friendly and adversary actions on the civilian environment. These teams may be a part of the civil-military operations directorate and may be composed of intelligence professionals; experts in human terrain, civilian infrastructure, and urban systems; and civil engineers.

For additional information on the law of war, see Appendix A, "Legal Considerations in Targeting," and the Department of Defense Law of War Manual. *For more information on the protection of civilians, see the DoD Instruction 3000.17,* Civilian Harm Mitigation and Response. *For more information on the civilian harm mitigation and response officer, see DoD's* Civilian Harm Mitigation and Response Action Plan (CHMR-AP) [short title: CHRM-AP].

d. **Component Commander Responsibilities**

(1) JFCs develop processes to coordinate joint and component deliberate targeting plans that ensure unity of effort and reduce duplication. In addition to TNLs, the component

HQ provides the JFE with deliberate targeting information, including the component's target list that identifies targets to be prosecuted by organic forces within the respective component OA. Components with air capabilities also provide the JFACC with targeting information and associated aviation-related information (e.g., input to the air tasking order [ATO], aircraft flows) required to develop the joint master air attack plan. JFCs and component liaison elements (e.g., joint air component coordination element, Marine liaison element, naval and amphibious liaison element, space component field commander) facilitate coordination of deliberate targeting plans.

(2) The component commanders:

(a) Nominate candidate targets to the JFC for development and inclusion in the JTL, RTL, and NSL.

(b) Conduct target development with component resources.

(c) Nominate targets for designation as JFC TSTs.

(d) Identify and approve component-critical targets.

(e) Provide appropriate representation to the joint targeting working group (JTWG), JTCB, and other staff organizations as required.

(f) Nominate to the JFC, or a designated representative, targets for inclusion in the JIPTL. This may include targets requiring engagement with nonorganic assets or targets requiring higher-level approval.

(g) Provide operational and tactical assessment to the JFE, to include MEA, for incorporation into the JFC's overall assessment efforts.

(h) Coordinate component HQ's deliberate and dynamic targeting.

(i) Conduct civilian harm mitigation and response assessments.

(j) Continuously monitor targets within their OA that are nominated for engagement on the GITL.

(k) Make changes to targeting execution due to changing conditions in the OE, consistent with the JFC's guidance and intent.

2. Targeting Organizational Structure

The joint targeting process crosses traditional functional and organizational boundaries. J-2, J-3, and J-5 personnel are the primary participants, but other subject matter experts (SMEs), such as logistics, weather, legal, civil-military operations, and communications, also support the JTC. The organizational structure established by the JFC should be functionally inclusive, responsive, and flexible enough to adapt to a range of situations. JFCs should arrange their joint targeting structure based upon the mission,

enemy, OE, and available forces. Ultimately, the organizational design of the targeting process should be able to execute all phases of the joint targeting process efficiently and continuously throughout the competition continuum.

a. **JTCB.** Joint targeting is an iterative process that requires close coordination between combat support agencies, national agencies, and HQs. The JFC-established JTCB, or similar organization, integrates and coordinates targeting. The JFC normally appoints the deputy JFC, the J-3, or a component commander to chair the JTCB. Component and JFC staff representation on the JTCB should also possess the necessary rank, experience, and knowledge to speak authoritatively for their respective component HQ and staff elements. When a JTCB is not established and the JFC decides not to delegate targeting oversight authority to a deputy or subordinate commander, the JFC chairs the organization performing the functions normally performed by the JTCB with the assistance of the J-3. The JFC ensures this is a joint effort involving applicable subordinate commands, other agencies, and multinational partners, as appropriate.

(1) When so designated, the JTCB can be an integration and synchronization body for targeting oversight across the joint force. It should comprise representatives from the joint force staff; all component HQs; and, if deemed necessary, combat support and national agencies, multinational partners, or subordinate units (see Figure II-1).

(2) If the JFC delegates authority for joint target planning, coordination, and deconfliction to a subordinate commander, that commander should possess or have access to a sufficient C2 infrastructure, adequate facilities, and joint planning expertise to effectively manage and lead the JFC's joint targeting operations. All component HQs are normally involved in targeting and should establish procedures and mechanisms to manage their particular targeting process.

(3) The JTCB should integrate lethal and nonlethal effects using joint capabilities, including special access programs and those with a global impact. Therefore, the JTCB should also consist of joint capability SMEs.

(4) The JFC defines the role of the JTCB, which provides a forum for component HQs to articulate plans and priorities for future target engagements so they may be synchronized and integrated. The JTCB normally integrates and coordinates joint force targeting activities with the component HQ's schemes of maneuver to ensure the JFC's priorities are met. The JFC may use a JTWG to review targeting integration before the JTCB. Targeting issues are generally resolved below the level of the JTCB by coordination between elements of the joint force, but the JFC, through the JTCB, addresses specific targeting issues not previously resolved.

(5) The JTCB is concerned with future operations, not the current battle. Operators already have the current day's targeting plan(s) in hand and are prepared to execute. Changing priorities on the day of execution is possible but is normally handled through the J-3 (or the equivalent at the component level) rather than through the JTCB.

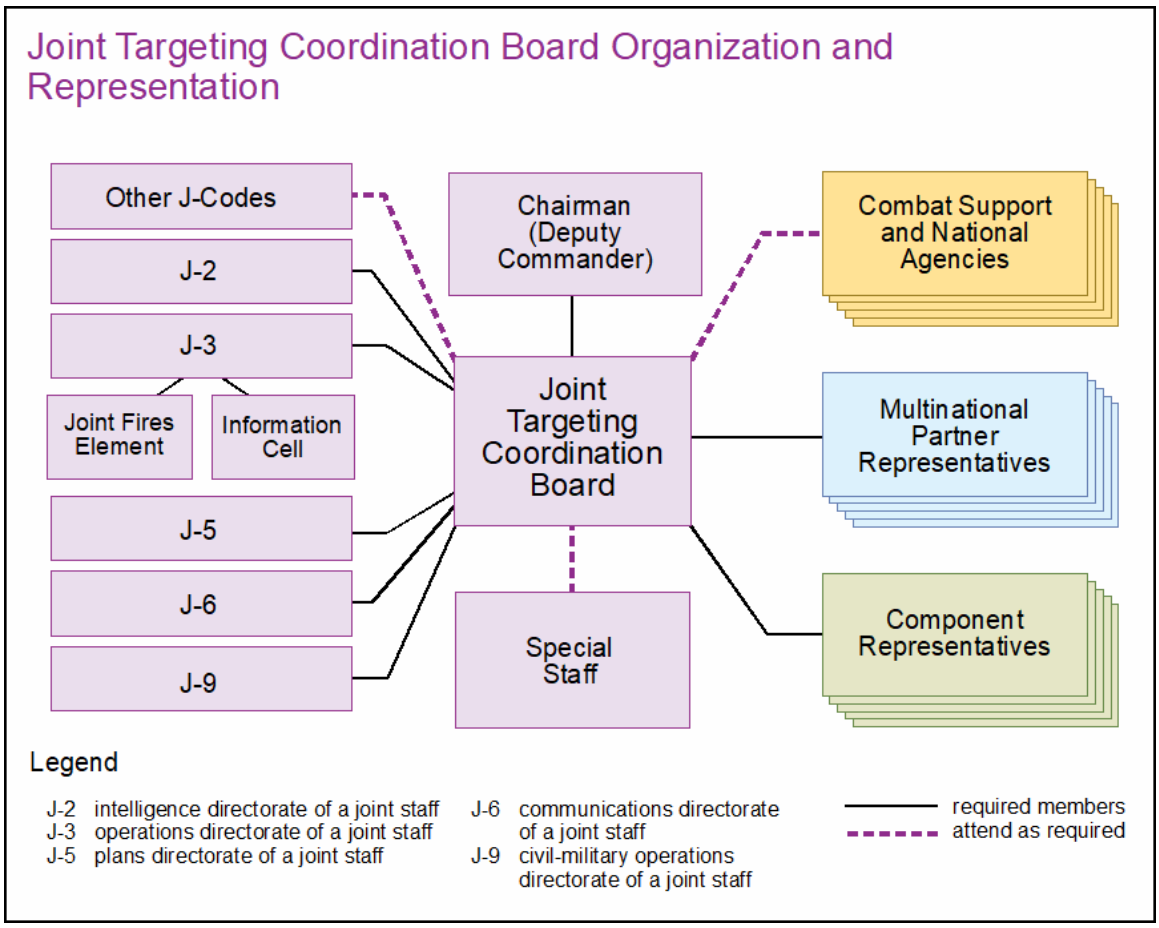

Figure II-1. Joint Targeting Coordination Board Organization and Representation

(6) In multinational operations, the JTCB could be subordinate to a multinational targeting coordination board, with JFCs or their agents representing the joint force.

(7) The JTCB typically:

(a) Maintains a macro-level view of the OE.

(b) Reviews operational-level assessments to guide the JFC's decision making.

(c) Reviews component HQ schemes of maneuver and broad targeting guidance for compliance with the JFC's intent.

(d) Reviews prioritization and integration of component plans according to the JFC's CONOPS.

(e) Reviews broad component targeting guidance and priorities that drive apportionment and allocation of joint resources.

(f) Reviews and refines intelligence collection requirements and joint intelligence, surveillance, and reconnaissance assessment guidance based on JFC priorities and intent.

(g) Ensures the JTL, NSL, RTL, GITL, and other relevant lists are maintained and updated based on JFC guidance.

(h) Reviews and validates targets for inclusion on the JTL, RTL, and GITL, when such authorities are delegated to the JTCB by the JFC.

(i) Reviews and prioritizes targets nominated on the GITL within the OA to determine their inclusion in that cycle's JIPTL IAW SecDef strategic guidance. These are targets that are nominated from outside the AOR.

(j) Reviews the JIPTL for JFC. The JTCB chair may have authority to approve the JIPTL for the JFC, if such authority has been delegated.

(k) Reviews, makes proposed updates, and recommends updated targeting guidance and prioritization based on JFC guidance and changes in the OE.

(l) Considers target nominations, consistent with the commander's guidance and civilian harm estimates.

(8) **JTCB Scope and Focus.** A focus of the JTCB is to assess integration and synchronization of all component schemes of maneuver within their CONOPS. The JTCB should be flexible enough to address targeting issues but should not become overly involved in tactical-level decision making. Toward that end, the JTCB requires a focused agenda that guides the daily conduct of business as effectively and efficiently as possible. A notional JTCB agenda is outlined in Figure II-2 and focuses on the following topics:

(a) **Assessment.** The JTCB should first review the most recent completed operational period (e.g., the last 24 hours). That discussion should be at the operational level of warfare and should consider the progress of the joint force toward the JFC's objectives. It should include a CA from the last 24 hours and an intelligence update on anticipated enemy COA in future operations.

(b) **JFC Intent.** A discussion of broad JFC guidance for future plans, usually presented by the chair of the JTCB. This may be the time when the JFC discusses how targets nominated on the GITL affect the next day's operations.

(c) **Schemes of Maneuver and Fires.** A comprehensive review of the CONOPS of the component HQ for future operations (72 hours minimum). Planners should refine broad targeting guidance and priorities for both lethal and nonlethal effects as appropriate in this portion of the meeting.

(d) **Joint Maneuver and Fires.** As a last agenda item, the board should review the plan for the next 72 hours with a focus on how the mutually supporting capabilities of joint fires can be integrated into an operational scheme of maneuver that

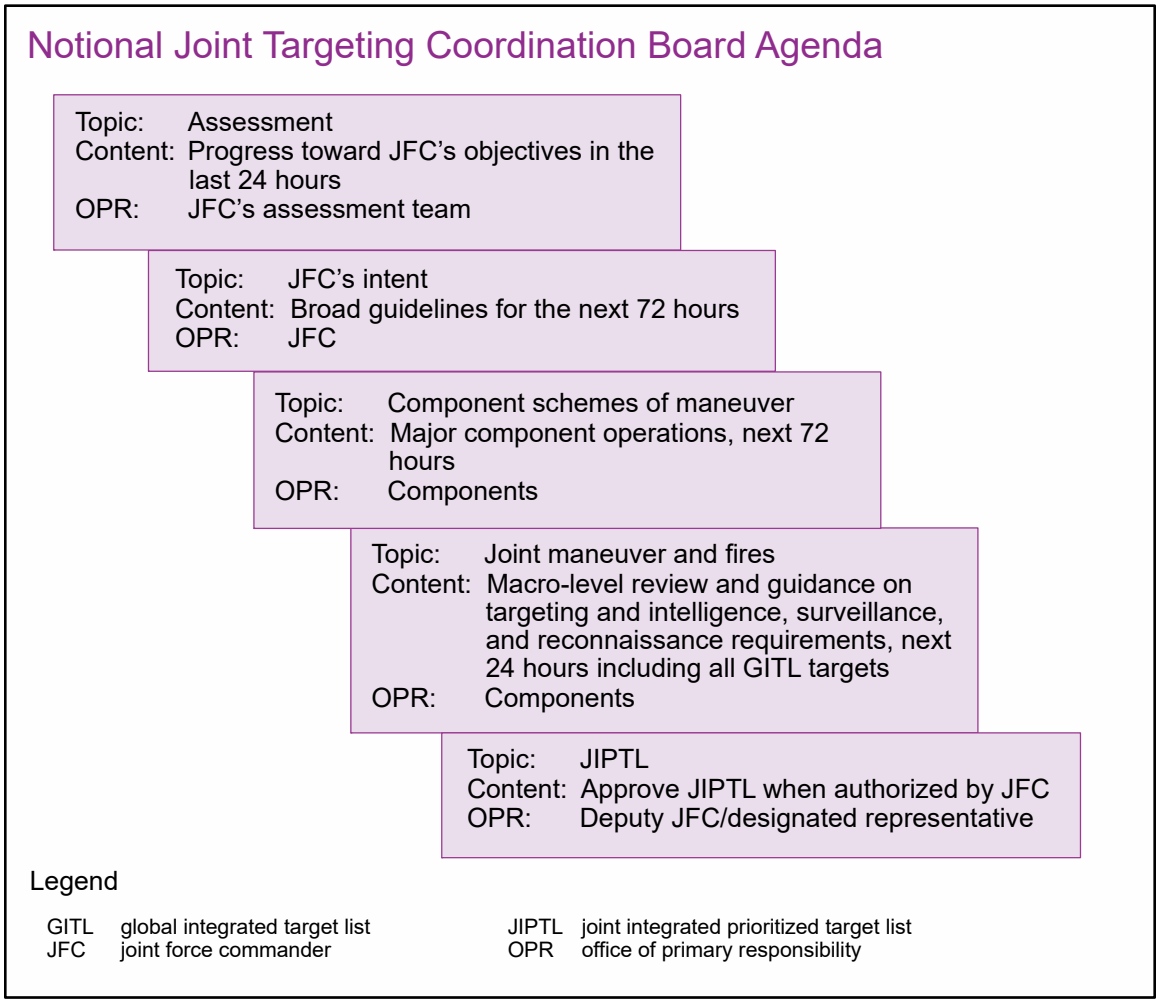

Figure II-2. Notional Joint Targeting Coordination Board Agenda

also creates desired operational effects. More specific targeting issues may be addressed here if not previously resolved in deliberate targeting. Such issues may include GITL nominations, TSTs, target restrictions, dynamic targeting priorities, and priorities for certain weapons (e.g., cruise missiles), as well as collection and assessment issues. This is the final review of the next day's plan to ensure it is still valid. This is the JTCB's final chance to recommend modification to targeting priorities before execution.

(e) **Approval of the JIPTL.** After the JFC (or designated representative) approves the JIPTL, it is implemented by tasking the joint force using the JFACC's ATO or the integrated tasking order (ITO).

For more information on ATOs/ITOs, see JP 3-30, Joint Air Operations, *and JP 3-03,* Joint Interdiction.

b. **JFE.** The JFE integrates and synchronizes fires planning and coordination to create lethal and nonlethal effects on behalf of the JFC. The JFE is a staff element established by the JFC and comprises representatives from the J-3 and component HQ. Other elements of the JFC's staff may also be included—the targeting staff of the J-2; space, cyberspace,

EMS, and information representatives; planners from the logistics directorate of a joint staff and the J-5; the civil-military operations directorate (or equivalent organization focusing on the civilian environment, such as civilian environment teams); and other liaisons. It should be physically located near the joint operations center. For cases where a JFE does not exist at a subordinate JFHQ, the JFC designates the next higher JFHQ or a component capable of performing this function. JFE key functions and tasks generally include the following:

(1) Assists the J-3 in the daily planning, coordinating, and conducting of joint fires. Assists in the conversion of strategic-level guidance into operational-level guidance.

(2) Develops joint targeting guidance and priorities for approval by the JFC to support current and future plans. Coordinates with Service and functional components to develop military objectives and targeting guidance that support the JFC's plan. This guidance should include measures essential to minimizing harm to civilians.

(3) Integrates and synchronizes fires planning, coordination, and execution to create lethal and nonlethal effects as either a supported or supporting commander. Prepares fires-related input for the development of all schemes of maneuver and associated operational branches and sequels. Synchronizes joint fires and CAs.

(4) Validates target nominations from the component HQs and the GITL. When developing future plans, nominates targets to the JTL/RTL and JIPTL. Recommends HPTs in the JTC.

(5) Deconflicts targets between component HQs, CCMDs, multinational partners, interagency partners, IC members, and nongovernmental organizations with equities in the JOA. This process is separate from the target vetting process conducted by the J-2 to confirm the characterization of targets.

(6) Manages the draft JIPTL. Forwards the draft JIPTL to the JTCB for review and approval (if authority has been delegated). Manages the approved JIPTL.

(7) Coordinates, maintains, and disseminates a complete list of FSCMs and OAs within the JOA to avoid friendly fire incidents and potential conflicts with current and future operations. This task includes applying restrictions found on the RTL and NSL to build FSCMs in joint fires and C2 automated systems. Coordinates joint fires and ROE issues with mission partners.

(8) In coordination with the J-2 (usually J-2T), leads and ensures the successful execution of the JTC. Develops the roles, functions, and agenda of the JTCB.

(9) In coordination with the J-2T, organizes a planning team to address targeting efforts to bridge the gap between current and future operations.

(10) Recommends intelligence, surveillance, and reconnaissance collection requirements through the joint collection management board and the JTCB.

(11) Within the JPP, develops the joint fires estimate and COAs.

(12) Prepare the JFC's ITO, which integrates and synchronizes all-domain fires.

(13) Monitors actions against sensitive targets, TSTs, and component-critical targets for the J-3. If necessary, recommends procedures to engage TSTs and component-critical targets.

(14) Develops procedures to minimize collateral damage and other collateral effects based on the commander's guidance and higher-level directives. Ensures procedures address minimizing harm to the civilian population.

(15) Conducts assessments of joint fires and the targeting process (including CA, BDA, and civilian harm mitigation and response assessment) in coordination with higher HQs, J-2, J-3, and component HQs.

(16) Prepares appendix 6 (Joint Fire Support) to annex C (Operations) for all JFC plans and orders. Provides fires-related input to all appropriate portions of joint orders.

For more information on the JFE, see JP 3-09, Joint Fire Support, *and Chairman of the Joint Chiefs of Staff Manual 3108.01,* Joint Fires Element. *For more information on development of the draft JIPTL, see JP 3-30,* Joint Air Operations.

c. **JTWG**

(1) When established by the JFC, the JTWG assists in the coordination and integration of the joint targeting process. The JTWG supports the JTCB by reviewing the initial collection, consolidation, and prioritization of targets, as well as the synchronization of lethal and nonlethal effects in target planning and coordination. The JTWG is an action officer-level venue co-chaired by the JFE chief and J-2T (chief of targets), or an equivalent representative. This working group meets as required to discuss targeting integration and synchronization issues raised by the JFC, staff, planning teams, and the JFC's major subordinate commands (see Figure II-3). Inputs to the JTWG may include the commander's CONOPS, intent, targeting guidance, and most current target-related lists (JTL, RTL, TNL, NSL) AOR-specific targets listed on the GITL, and an estimate of available joint force resources and capabilities.

(2) JTWG responsibilities are to:

(a) Review the JFC's CONOPS and associated targeting guidance. Inform and review the component HQ's proposed schemes of maneuver to verify compliance with the JFC's intent and guidance.

(b) Disseminate the JFC's targeting guidance and priorities to the component HQ and JFC staff.

(c) Review the JTL, RTL, TNL, NSL, and GITL.

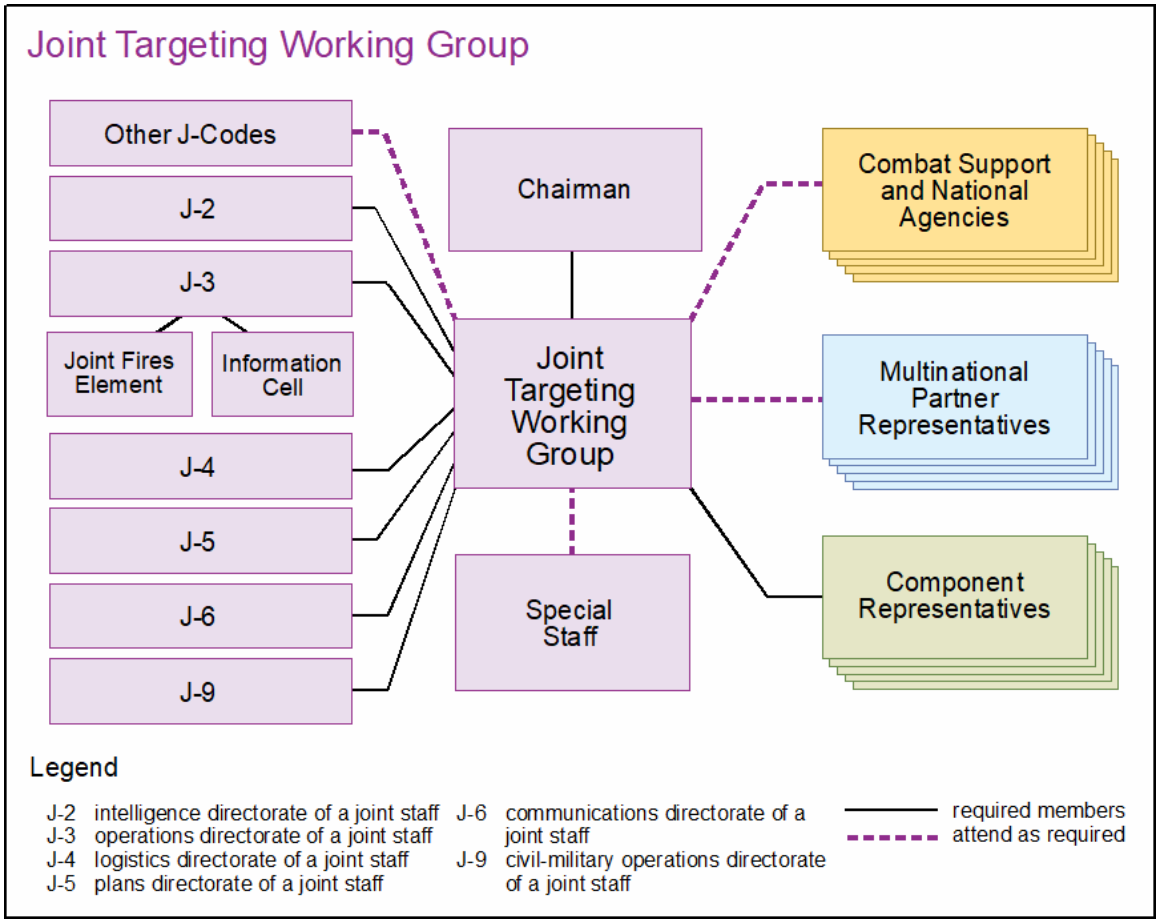

Figure II-3. Joint Targeting Working Group

(d) Draft guidance for the JFC that integrates proposed fires and activities in all domains that result in both lethal and nonlethal effects.

d. **Target Development Working Group (TDWG).** In support of the management and coordination of target development, CCMDs should establish TDWGs. The TDWG leads the coordination and development of targets throughout the joint targeting process, particularly in competition (prior to crisis or conflict) or before the onset of campaigns and major operations. The TDWG supports the JTWG and JTCB by coordinating target intelligence across the command's target intelligence enterprise. Chaired by the J-2T (chief of targets), the TDWG reviews target nominations and provides feedback on improving basic and intermediate target development and assignment to the appropriate target development nomination list. Actions at the TDWG ensure targets are successfully vetted, accurate, and relevant for validation at JTWGs and JTCBs. Inputs to the TDWG include targeting guidance, target development nominations, and CTLs. CCMDs should advertise these TDWGs to other CCMDs and invite them to nominate targets in support of global campaign plans to the GITL. CCMDs may modify TDWGs as necessary to support their target development requirements.

For more information on the TDWG, see CJCSI 3370.01, (U) Target Development Standards.

e. **Civilian Harm Assessment Cell**. Civilian harm assessment cells function at the CCMD level or, as appropriate, subordinate JFHQ to identify, receive, and compile information related to civilian harm resulting from US military operations. Sources of this information may include combat assessments, such as BDA or CDA. They support the JFC in coordinating and performing civilian harm mitigation and response assessments and identify ways to improve civilian harm mitigation and response in planning and conducting operations. This may include participating in joint effects coordination boards, JTCBs, TDWGs, JTWGs, or other relevant cross-functional organizations.

For more information on the civilian harm assessment cell, see DoD Instruction 3001.17, Civilian Harm Mitigation and Response, *and DoD's* CHRM-AP.

3. Joint Targeting Integration and Oversight

a. The JFC's primary targeting responsibility lies in establishing operational objectives in applicable plans and orders. From a targeting perspective, the JFC integrates and synchronizes the objectives component commanders should achieve throughout their OAs with their assigned, attached, and supporting forces. With the advice of subordinate component commanders and supporting commands, JFCs set priorities and provide clear targeting guidance within the OA. In a transregional or global conflict, multiple CCMDs also need to integrate and synchronize lines of operation and effort against a peer adversary or threat.

b. The weight of effort, or apportionment, of fires in an operation may be proposed by the JFE or by another designated representative of the JFC, such as the JFACC, in consultation with other component commanders, and approved by the JFC. The weight of effort of air operations is normally proposed by the JFACC in consultation with other component commanders and is also approved by the JFC. In both cases, the apportionment of fires to create lethal and nonlethal effects is completely determined by the mission, enemy, available forces, and the OE.

For a discussion on air apportionment, see JP 3-30, Joint Air Operations.

c. **Friendly Fire Incident Prevention.** The prevention of friendly fire incidents is a key consideration of risk assessment across all targeting timelines. Throughout the targeting process, JFCs and component commanders establish safeguards to reduce the possibility of friendly fire incidents. Tracking friendly forces position and intended schemes of maneuver in relation to select targets aids in their prevention. Although the JFC may justifiably elect to accept additional risk when engaging targets of opportunity, appropriate measures to prevent friendly fire incidents are still established and followed. **An essential element to preventing friendly fire incidents is a firm grasp of FSCMs and appropriate OA boundaries. Whether an AOR or an area of operations, the risk of friendly fire escalates when these boundaries and FSCMs are ignored.**

d. **Collateral Damage Mitigation.** The United States places a high value on preserving noncombatant lives and property and seeks to accomplish its mission through the appropriate application of force with minimal collateral damage. Joint standards and

methods for CDE and CEE provide mitigation techniques and assist commanders with weighing collateral risk with military necessity. This aids in the assessment of proportionality and other legal considerations for assessing potential civilian harm within the JPP. Additional information about populated areas may be required to mitigate an operation's undesired effects on a civilian population. Whether in competition or armed conflict, such information would normally include recognition of vulnerable groups and their local leaders in an OA. A robust JIPOE process during mission analysis of the JPP, and the current enemy situation, should inform the means, motives, and opportunities that impact or influence local decisions.

e. **Civilian Harm Mitigation and Response.** CCMDs should establish guidance to mitigate civilian harm while conducting deliberate and dynamic targeting. Specific guidance issued by a CCMD should consider the following:

(1) Target planning and engagement, including PID criteria that addresses sources of identification and appropriate levels of certainty of geolocation and functional characterization.

(2) Establishment, maintenance, appropriate dissemination, and employment of NSLs, including processes for identifying information to inform the nomination of no-strike entities from intelligence collections, civil affairs, other United States Government departments and agencies, allies and partners, civil society organizations, nongovernmental organizations, and international organizations, as well as the humanitarian notification systems of such organizations.

(3) CDE methodology, including estimations of weapons' effects on civilians and civilian objects. Target development for targets reasonably expected to contain chemical, biological, radiological, or nuclear materials; weapons-associated materials; and other industrial hazards should include an analysis of the anticipated effects and be informed by relevant experts (e.g., Defense Threat Reduction Agency [DTRA]).

(4) The effect of operations on civilians and civilian objects, including both friendly and adversary COAs.

(5) Efforts, such as green teaming and red teaming, to reduce the likelihood of target misidentification, particularly from cognitive bias.

(6) Information sharing between all elements, nodes, and cells responsible for the joint targeting process.

(7) The speed of target updates required to ensure its characteristics are still relevant and enable the desired effects.

For joint standards and methods for conducting CDE, see CJCSI 3160.01, (U) No-strike and the Collateral Damage Estimation Methodology. *For additional insight into red teaming, see JP 5-0,* Joint Planning. *For details on the expression of likelihood or probability, see JP 2-0,* Joint Intelligence.

f. **Targeting Integration via Joint and Component Operations Centers.** Targeting, with its associated systems and processes, should exist at multiple levels. Commanders of joint operations centers, JIOCs, and component command centers plan for and conduct operations.

(1) From their joint force component HQ, JFCs not only identify requirements but also nominate targets that are outside their OAs or exceed the capabilities of organic or supporting assets (based on the JFC's apportionment decision). After the JFC makes targeting guidance and apportionment decisions, the component commanders plan and execute assigned missions.

(2) The components leverage their organic and apportioned capabilities in the planning, execution, and assessment of their targeting efforts. In the event their targeting efforts require additional support from the JFC or other components, the JFC always has the option to reallocate resources based on the operating environment.

For additional information, see JP 3-05, Joint Doctrine for Special Operations; *JP 3-09,* Joint Fire Support; *JP 3-14,* Joint Space Operations; *JP 3-30,* Joint Air Operations; *JP 3-31,* Joint Land Operations; *JP 3-32,* Joint Maritime Operations; *JP 3-33,* Joint Force Headquarters; *and ATP 3-52.2/MCRP 3-20.1/NTTP 3-56.2/AFTTP 3-2.17,* Multi-Service Tactics, Techniques, and Procedures for the Theater Air-Ground System.

g. **Synchronization with Friendly or Neutral Forces.** In complex operating environments, especially when participants are linked through interdependent relationships, the joint force may conduct operations with friendly or neutral actors while simultaneously conducting targeting against adversaries or enemies. Therefore, targeting should be deconflicted and synchronized with those actors and organizations. These operations should include the analysis of potential second- or third-order effects, including possible negative outcomes.

For further information on operations in complex environments and synchronization across friendly, neutral, or adversary actors, see JP 3-25, Joint Countering Threat Networks.

h. **Exploitation.** Exploitation may be required after targets are engaged and should be synchronized with the targeting process. It may provide the joint force with the information and intelligence needed to answer commander's critical information requirements and enable subsequent operations; support force protection initiatives and refinement of friendly tactics, techniques, and procedures; support interrogation and host- or partner-nation prosecution of detainees; and identify signatures associated with threat network activities. Exploitation can be integrated into the targeting cycle through the find, fix, finish, exploit, analyze, and disseminate process, which is detailed in JP 3-26, *Joint Combatting Terrorism*.

For more information on exploitation, see JP 2-0, Joint Intelligence.

4. Federated Targeting Support

a. A whole-of-government approach to target development and assessment can provide reachback support for the JFC and component commanders. Using this federated targeting support, the supported JFC works in conjunction with the National Joint Operations and Intelligence Center (NJOIC) and Joint Staff J-2 [Intelligence], IAW the supported JFC requirements, to establish targeting support and assessment responsibilities between CCMDs. The J-2 normally ensures federated targeting support requirements are addressed in CONPLANs and orders and assists in the dissemination of targeting support-related information between federated partners and the supported JFC.

b. Joint targeting intelligence is supported by interdisciplinary, interagency, and multinational intelligence organizations whose processes and procedures efficiently and effectively produce targeting data and products. The JS J-2 and JFC J-2s, in concert with the Office of the Under Secretary of Defense for Intelligence and Security, establish partnerships and leverage appropriate expertise across the defense intelligence enterprise, enabling access to more actionable information than would otherwise be available to JFCs and their staffs. It also provides for an efficient division of labor that maximizes resources. Federation provides JFCs access to organizations and individuals that are experts in their respective analytic areas.

c. Federated support enables supported commanders to request assistance from outside an AOR for such areas as:

(1) **Target Development.** The production of TSAs, electronic target folders (ETFs), and target materials (e.g., joint desired points of impact data and graphics).

(2) **Capability Analysis.** Weaponeering solutions, applicable CDE/CEE, modeling or simulation products (e.g., the terminal area models associated with joint air-to-surface standoff missiles).

(3) **CA.** The damage or changes to physical, functional, or target system capabilities.

d. Supporting CCMDs and the various supporting component HQs, through their JIOCs, also have valuable resources that may be brought to bear to support federated targeting. Supporting CCMDs may construct ETFs and target materials, assist in JIPOE, derive mensurated coordinates, support federated assessments, or provide other federated targeting support as coordinated during planning.

e. **Roles and Responsibilities**

(1) The NJOIC and JS J-2 assist the joint force J-2 in establishing a federated targeting and assessment plan. Federated production is an essential part of the JFC's planning process. The J-2 conducts the intelligence planning process and develops the intelligence plan as annex B (Intelligence) to a CONPLAN or OPORD. The J-2 assesses the joint force organic tasking, collection, processing, exploitation, and dissemination capabilities to support the JFC's selected operations through all phases of conflict. The

joint force J-2 determines intelligence gaps/shortfalls and establishes federated partnerships to address them.

(2) Federated partnerships are formal agreements between theater JIOCs, Service intelligence centers, DoD intelligence agencies, reserve intelligence elements, and non-DoD intelligence agencies. When not provided to the CCMD through the global force management process, partnerships and formal agreements are necessary when organizations conduct activities under their own authorities. These agreements form the basis for national intelligence support plans described in appendix 4 (Targeting) to annex B (Intelligence) of CONPLANs and OPORDs. These agreements address such critical issues as all-source intelligence analysis and production, linguistics and translation services, document and material exploitation, counterintelligence, human intelligence, geospatial intelligence (GEOINT), and signals intelligence operations.

(3) The Defense Intelligence Analysis Program designates responsible organizations for the production and maintenance of analysis relating to functional and topical capabilities and activities such as counterterrorism, WMD, infrastructure capabilities, orders of battle, social networks, national communication means, and other key information networks.

(4) All phases of targeting, including TSA, target development, joint desired point of impact (JDPI) production, weaponeering, NLRP, CDE/CEE, and assessments, are typically conducted in theater to the maximum extent possible. However, if federation is required, it should leverage the array of national agency, command, and Service centers that are resourced and proficient in these areas.

(5) In a federated environment, especially during crisis planning, the control of all records is vital. Supported commanders should establish a single point of contact for records accountability. Careful administration of records can optimize the use of analytical and production resources available from the Defense Intelligence Enterprise.

f. **Intelligence Organizations and Supporting Agencies**

(1) The following list of organizations includes potential partners in the federated production of target intelligence. It is not all-inclusive, nor will all these organizations necessarily support every combat operation.

(2) **DoD Organizations.** Outside of the CCMDs, the primary DoD organizations include the JS, NJOIC, Defense Intelligence Agency (DIA), National Security Agency (NSA), National Geospatial-Intelligence Agency (NGA), National Ground Intelligence Center (NGIC), and the Service intelligence centers. Other organizations that provide unique joint targeting capabilities include DTRA, the Joint Information Operations Warfare Center, and the Joint Warfare Analysis Center (JWAC). Together, these organizations, led by the JS J-2, consist of the national community of interest for target vetting.

(a) **JS J-2.** The JS J-2 is the primary coordination element and staff lead for national-level intelligence support to the joint targeting process. The JS J-2 is a unique

organization in that it is a fully integrated element of the JS, while also a major component of DIA, a combat support agency. Specific JS J-2 targeting responsibilities include:

1. Providing the Chairman of the Joint Chiefs of Staff and Joint Staff J-3 [Operations Directorate] with targeting, assessment, and technical support planning.

2. Providing federated target development and assessment through the Joint Staff Targeting Integration Cell.

3. Assisting the joint force by coordinating target vetting within the IC.

4. Providing functional expertise on targeting and target-related issues under review by the JS, SecDef, and President. This includes the review of CCMD target lists, sensitive target approval and review products, planning orders, warning orders, and execute orders.

5. Identifying automation gaps for the target intelligence enterprise architecture.

(b) **DIA.** DIA provides worldwide support to military operations through the production of completed target intelligence for SecDef, CCDRs, and JFCs. Analysts across the agency directly support joint targeting efforts by performing foundational military intelligence, all-source analysis, and production to support target development, target material production, and CA.

(c) **NJOIC.** The NJOIC is the primary conduit through which national-level target intelligence support is provided to the CCMDs and subordinate joint forces. The NJOIC and CCMD JIOCs leverage national intelligence assets and determine requirements through the Director of National Intelligence and the IC representatives at the CCMDs.

(d) **NSA.** The NSA is a combat support agency that provides critical intelligence support to all phases of the joint targeting process. This support includes analysis of communications networks, information infrastructure, and operational signals intelligence. Along with other members of the IC, the NSA provides the CCMD, JS J-2, and NJOIC with the intelligence gain/loss assessment, an evaluation of the quantity and quality of intelligence data lost or gained if the target is engaged. The NSA keeps the NJOIC, CCMD JIOCs, and other interested commands and agencies informed of agency activities that take place in each respective CCDR's AOR or JFC's JOA.

(e) **NGA.** NGA is a combat support agency, as well as a national intelligence organization. NGA is the primary source for GEOINT preparation of the environment, GEOINT analysis, and products at the national level.

1. NGA's analysts assist in federated target development and assessment.

2. NGA can provide GEOINT support to CCMDs via an NGA support team or other means. NGA support elements in theater have full connectivity with NGA to ensure total reachback capability.

3. Targeting support products use GEOINT analytical techniques and technologies, geodetically controlled source material, and refined mensuration techniques and data. NGA contributes to military operations by supplying needed intelligence, mission-specific data sets, and foundational data to support targeting. NGA also provides data for national and international contingency planning and aids in post-disaster event analysis.

4. NGA leverages National Reconnaissance Office-contracted commercial data providers for commercial imagery collections and data services that deliver anticipatory and responsive content (imagery/imagery products) to meet mission needs. The increased global coverage that commercial sources provide is a key enabler for persistent GEOINT and critical to targeting mission success.

5. NGA's Geospatially Enabled Target Materials is a foundational military intelligence and targeting object database and object-based production that contains geospatially referenced vector layers of installation, facility, and element outlines. This library follows the basic and intermediate target development standards outlined in CJCSI 3370.01, *(U) Target Development Standards*.

6. Organizations and individuals who conduct target coordinate mensuration to support the use of coordinate-seeking weapons require program accreditation and certification. NGA administers target coordinate mensuration certification and program accreditation for Services, CCMDs, CCMD-subordinate forces, combat support agencies, allies, and partners.

For information on accreditation authority for mensuration certification, see CJCSI 3505.01, Target Coordinate Mensuration Certification and Program Accreditation.

(f) **DTRA.** DTRA is a combat support agency that enables the United States Government and its international partners to counter and deter WMD and other emerging threats. DTRA develops and maintains data and technical tools to conduct analysis on chemical, biological, radiological, or nuclear plume hazard estimations and explosive hazards in support of a commander's CDE requirements. This includes hardened and deeply buried targets, plume hazard estimations, and weaponeering options. DTRA's capability encompasses the entire spectrum of chemical, biological, radiological, or nuclear threats and it conducts in-depth, long-range, and time-sensitive plume hazard analyses.

For additional details on DTRA capabilities, see DoD Directive 5105.62, Defense Threat Reduction Agency (DTRA).

(g) **Joint Information Operations Warfare Center.** The Joint Information Operations Warfare Center, a Chairman of the Joint Chiefs of Staff-controlled activity under JS J-3, enables the application of information at the strategic level of warfare and supports operations in the information environment at the operational level of warfare. The Joint Information Operations Warfare Center can facilitate globally integrated operations in and through the information environment and provides information environment-related intelligence that can be tailored for integration into TSAs and ETFs.

For additional details, see JP 3-04, Information in Joint Operations.

(h) **United States Strategic Command.** Commander, United States Strategic Command, supports joint targeting with assigned forces and capabilities, including:

1. **JWAC.** JWAC provides the JS, CCMDs, subordinate commands, and other agencies with precision targeting and deterrence options for selected networks and nodes. JWAC conducts modeling analysis, fused with scientific and intelligence data, to produce target sets that support a JFC's objectives. As such, JWAC is a key provider of information supporting target development and assessment. It can also provide unique weaponeering cases and CDE/CEE analysis.

2. **Joint EMS Operations Center.** United States Strategic Command's Joint Electromagnetic Spectrum Operations Center, as the DoD operational lead for the EMS operations, advances the joint force's ability to operate and prevail in a contested, congested, and constrained EMS.

For additional information on joint EMS operations, see JP 3-85, Joint Electromagnetic Spectrum Operations.

(i) **United States Cyber Command.** United States Cyber Command plans, coordinates, integrates, synchronizes, and conducts activities to direct the security, operation, and defense of the DoD information network. When directed, it conducts military cyberspace operations on a global and regional basis to achieve objectives throughout the OE. As such, United States Cyber Command facilitates the freedom of action of the United States and our multinational partners in cyberspace while denying the same to our adversaries and enemies.

For additional details, see JP 3-12, Joint Cyberspace Operations.

(j) **United States Space Command.** United States Space Command supports the joint targeting process through planning, coordination, integration, and execution of offensive and defensive space operations. It also provides key space capabilities to other CCMDs for precision targeting and deterrence options to meet the JFCs' objectives. The United States Space Command JFE synchronizes target validation (in terrestrial, link, or on-orbit space operations segments) with other CCMDs and interagency partners through a JTCB.

For additional details, see JP 3-14, Joint Space Operations.

(k) **United States Special Operations Command.** United States Special Operations Command provides planning and execution of global special operations activities and missions. The command supports the targeting process through operational control of forces to the CCMDs.

For additional details, see JP 3-05, Joint Doctrine for Special Operations.

(l) **NGIC.** The NGIC is DoD's primary producer of ground forces intelligence. The NGIC produces scientific and technical intelligence and military capabilities analysis on foreign ground forces required by commanders, the force modernization and research and development communities, and national policymakers. NGIC's general military intelligence mission focuses on foreign ground forces from the operational through small-unit level, maintaining detailed knowledge of current foreign ground force capabilities, as well as a focus of 5, 10, and 20 years in the future. It includes irregular warfare and conventional warfare analysis, examining foreign ground forces from a perspective that includes battlefield operating systems; doctrine; tactics, techniques, and procedures; training; maintenance; logistics; and order of battle.

g. **Non-DoD Organizations Supporting Joint Targeting.** Many non-DoD organizations provide significant intelligence and operational support to the joint targeting process—the Central Intelligence Agency, Department of State (DOS), Department of Justice (DOJ), Department of the Treasury, and Department of Energy. The Departments of Homeland Security, Commerce, Transportation, and Health and Human Services also provide peripheral support and intelligence to targeting efforts (especially during competition below armed conflict). This section concentrates on the five agencies that have a direct bearing on joint targeting:

(1) **Central Intelligence Agency.** The Central Intelligence Agency, through its Associate Directorate of Military Affairs/Targeting and Technical Coordination Group, works with DoD on many issues relating to the targeting cycle.

(2) **DOS.** Because of DOS's worldwide network of diplomatic missions and posts staffed with representatives of numerous national agencies, it is a key source of information. The central point of contact within DOS for intelligence, analysis, and research is the Bureau of Intelligence and Research. This bureau produces intelligence studies and analyses, which have provided valuable information in support of targeting. Additionally, all-source reporting via Foreign Service channels at American embassies or consular posts can also be useful during many phases of the JTC.

(3) **DOJ.** DOJ can directly support the joint targeting process when the target has violated US or international law. DOJ assists DOS in a variety of efforts to promote freedom and security through the rule of law in countries around the world. This relationship gives elements of the DOJ the ability to establish and maintain liaison with principal law enforcement entities, security services, and foreign governments in all OAs.

(4) **Department of the Treasury.** The Department of the Treasury can support the joint targeting process for issues relevant to counter threat finance. The Department of the Treasury's Office of Terrorism and Financial Intelligence is the department's main interlocutor with other United States Government departments and agencies focused on national security. Its mission is to marshal the department's intelligence and enforcement functions with the twin aims of safeguarding the financial system against illicit use and combating national security threats (e.g., rogue nations, terrorist facilitators, WMD proliferators, money launderers, transnational criminal organizations).

(5) **Department of Energy.** This department, through its national laboratories, provides significant chemical, biological, radiological, and nuclear analysis data related to facilities and installations associated with the proliferation of WMD. The Department of Energy can also provide prediction models and assist in consequence analysis of chemical, biological, radiological, or nuclear threats. Additionally, the Department of Energy's Oak Ridge National Laboratory is responsible for producing the population density tables used in CDE.

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CHAPTER III
THE JOINT TARGETING CYCLE

1. Activities

a. The JTC is a continuous process that occurs throughout military operations across the competition continuum. Deliberate targeting occurs during the planning for future operations. Dynamic targeting occurs during current operations to prosecute targets of opportunity, including unscheduled targets and unanticipated targets. Deliberate and dynamic targeting may occur in both competition below armed conflict and armed conflict.

b. Plans and orders provide the context for targeting throughout military operations across the competition continuum. CCMDs maintain a database of targets that relate to their campaign plans, CONPLANs, and supporting plans for subordinate JFCs. Detailed foundational military intelligence products (e.g., dynamic threat assessments, JIPOE products, and country assessments) facilitate detailed targeting.

c. When appropriate, SecDef and the CCDRs may establish subordinate joint force commands and may transfer the responsibility to conduct joint targeting, including target development and validation authority, to that level. A CCMD normally provides a subordinate JFC with a list of targets and associated target folders that are applicable to a joint operation within an AOR. For example, a CCMD facing the threat of ballistic missiles or WMD typically maintains a target database and target folders on those threats. In situations when the subordinate joint force is deemed not to have the target intelligence production capacity to produce these requirements, the JFC may selectively choose which responsibilities to delegate and which to retain.

2. Targeting and Categories of Targets

Targeting is a process differentiated in time—**deliberate** and **dynamic.** While deliberate targeting focuses on a time horizon days or weeks out, dynamic targeting is focused on the near and current battle with a time horizon of hours. This time factor determines which type of targeting best supports the JFC's targeting requirements. Both categories of targeting deal with two different types of targets—planned targets and targets of opportunity. Neither category is related to the target to be engaged but is aligned with the phase in the JPP in which the target is identified and prosecuted. Two types of targets are associated with each category. (See Figure III-1.)

a. **Deliberate targeting.** JFCs use deliberate targeting in military operations across the competition continuum but primarily during execution of CCMD campaign plan operations in competition below armed conflict. When time is not a concern and while ensuring compliance with the law of war and ROE, candidate targets against specified mission requirements and commander's guidance and objectives. Deliberate targeting identifies targets known to exist in the OE which are detected, identified, and processed through TSA and target development in sufficient time for validation and placement on a JTL/RTL/GITL. They may be classified as a TST, a sensitive target, or a no-strike entity.

Categories of Targets

Target Category Summary

	Deliberate (Planned)		Dynamic (Target of Opportunity)	
Criteria	Scheduled	On-call	Unscheduled	Unanticipated
Identified in the operational environment	X	X	X	
Meets LOW justification, and requirements for priority, access and permissions	X	X	X*	X*
Resides on the JTL/RTL/JIPTL	X	X	X	
Prosecution time assigned	X			

* Accomplished during current operations timeframe

Legend

JIPTL joint integrated prioritized target list
JTL joint target list
LOW law of war
RTL restricted target list

Figure III-1. Categories of Targets

If they are determined to be a no-strike entity, they are no longer considered targets and are placed on an NSL.

(1) **Scheduled targets** are prosecuted at a specific time and with specific capabilities. These targets should appear on an ATO or ITO to synchronize actions. Diversion of these planned resources could impact the creation of the desired effects during the targeting period and should be weighed against the commander's targeting guidance.

(2) **On-call targets** have dedicated capabilities planned against them but not for a specific delivery time. The commander expects to locate these targets in sufficient time to prosecute them in a timely manner. These targets are unique in that actions are planned against them using deliberate targeting, but execution is normally conducted using the dynamic targeting process inside of the current operations day (usually the current 24-hour execution period). Ships and submarines are examples of deliberately planned targets that are dynamically (on-call) attacked. Once found, they need to be engaged quickly, since they may not be found again and, in 24 hours, they could be 500 nautical miles away.

b. JFCs normally employ dynamic targeting in current operations planning and execution because the nature and time horizon associated with current operations typically requires more responsiveness than can be achieved in deliberate targeting. **Dynamic targeting** prosecutes **targets of opportunity** that are approved by the commander during the current operations planning and execution period. Dynamic targets can be either TSTs or validated, candidate, or emerging targets that pose a threat to friendly forces or are of

importance to achieving the commander's objectives. Validated targets have no actions planned against them. Candidate targets are in some phase of target development, whereas emerging targets need full validation. Regardless of the dynamic target status, and due to compressed timelines, dynamic target development is accomplished quickly against the same general standards of a deliberate target (but may not be to the same level of details) before execution. A dynamic target should be considered fully developed when sufficient target intelligence exists to support the operational and legal requirements to execute operations against it.

(1) The OE has a significant impact on the scale of targets prosecuted by dynamic targeting. In an OE characterized by counterterrorism, particularly in urban terrain, the number of targets that require analysis and prosecution may be few. In large-scale combat operations, defined by large operational space and framed by discrete FSCMs, the process may require an expedited delegation of authority to on-scene tactical commanders who make decisions IAW the law of war and the ROE.

(2) **Unscheduled targets** are valid military targets on the JTL/RTL that are known to exist in the OE and were neither nominated nor approved for inclusion on the JIPTL, nor were they available for engagement within the current targeting cycle. However, changes to the target status (priority, access, or authorities) could result in the need or opportunity to engage the target during the current operations cycle.

(3) **Unanticipated targets** are targets either unknown or unexpected in the OE. These targets may not have been processed in deliberate targeting nor included on a JTL or RTL. Nevertheless, an evaluation of the candidate target is required before it can be engaged. In some cases, the candidate target is engaged in the current targeting cycle and the dynamic targeting process is necessary. In other cases, the candidate target is identified, developed, and validated for inclusion on the JTL or RTL and engaged in future targeting cycles.

(4) **Target development standards** are applied during both deliberate and dynamic targeting. However, during dynamic targeting, target development is accomplished using compressed timelines. The same general standards for diligence and rigor apply. Targets engaged through dynamic targeting may not be characterized to the same level of detail before prosecution that would otherwise occur with deliberate targeting. **Thus, a target should be considered fully developed when sufficient target intelligence exists and legal reviews are satisfied to support operations against that target.**

For more detailed information regarding dynamic targeting, see ATP 3-60.1/MCRP 3-31.5/NTTP 3-60.1/AFTTP 3-2.3, Multi-Service Tactics, Techniques, and Procedures for Dynamic Targeting.

3. The Joint Targeting Cycle

The JTC provides an essential framework to conduct the joint targeting process (see Figure III-2). It is composed of six interrelated phases which are neither rigidly sequential

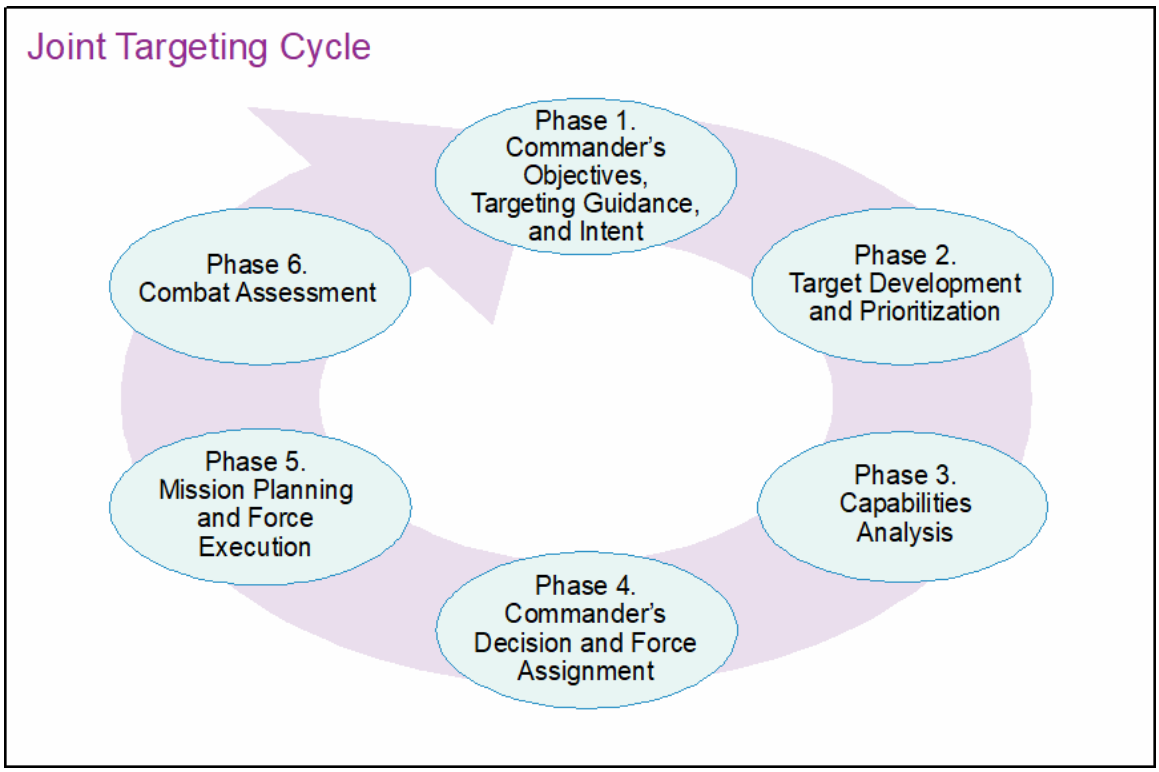

Figure III-2. Joint Targeting Cycle

nor constrained by time. Some phases may be conducted independently (e.g., target development for CONPLANs) and some steps may be conducted concurrently. Similarly, the JTC is flexible with respect to its use in military operations across the competition continuum. The only noticeable distinction would be the relative emphasis of lethal versus nonlethal effects in competition versus armed conflict. The JTC supports both deliberate and dynamic targeting and provides the necessary flexibility when the OE forces a change in commander's intent and CONOPS.

a. **Phase 1—Commander's Objectives, Targeting Guidance, and Intent**

(1) The first and most important activity of the joint targeting process is understanding the JFC's guidance, intent, and orders. This guidance establishes the operational objectives relevant to the OE that directs planning and operations. Proposed objectives are coordinated among strategists, planners, and intelligence analysts for approval by the commander. Additionally, planners consider effects on the information environment throughout all phases of the JTC and ensure close synchronization with information forces. Planning for the inherent informational aspects of military operations helps combat potential negative consequences. Objectives are the foundation for identifying desired operational effects that bound the scope of target development. In some cases, the development of tasks and the alignment of targets to those tasks is necessary to bridge the gap between target development and operational planning within the JTC. The ability to determine the effects necessary to achieve the commander's objectives, bounded by risk, is the mark of an effective targeting process and, ultimately,

a successful campaign or operation. Outputs of mission analysis include the mission statement, a refined operational approach, the commander's intent, and updated planning guidance.

(2) As part of updated planning guidance, the JFC may develop and issue targeting guidance. Targeting guidance may include targeting objectives, priorities, and tasks; target selection criteria and procedures; guidance on the JFC's TSTs and component critical targets; target acquisition and identification criteria; and designated responsibilities for target validation and target engagement.

(3) JFC guidance and intent may change throughout the course of planning and as the operation progresses within a dynamic OE.

(4) Measures of effectiveness (MOEs) and measures of performance (MOPs) also help to focus target development within the joint targeting process and are critical to enabling CA.

b. **Phase 2—Target Development and Prioritization**

(1) **Target development** is the systematic examination of potential target systems and their components to determine the necessary type and duration of action that must be exerted on each target to create the specified effect. The purpose of target development is to validate an entity as a military target IAW JFC objectives, ROE, and the law of war. Phase 2 encompasses the following three processes:

(a) TSA.

(b) Entity-level target development.

(c) Target list management.

(2) **JIPOE**

(a) The JIPOE process is fundamental to the JPP and critical to phase 2 (target development and prioritization). JIPOE is a disciplined methodology that provides an understanding of the relationship between an adversary's critical capabilities, requirements, vulnerabilities, and centers of gravity. This analysis helps the commander determine those decisive points that create marked advantages over an adversary or contribute materially to achieving success. JIPOE products illuminate the decisive points that offer direct and indirect opportunities to engage the adversary's centers of gravity. JIPOE products provide much of the target identification, baseline analysis, and systemic characterization that informs target development and target systems analysis.

(b) During the JPP, targeteers evaluate the JFC's objectives in relation to the adversary's centers of gravity to select eligible target systems and their elements. The purpose is to characterize the function, criticality, and vulnerabilities of each potential target. Targets are linked back to targeting objectives, effects, and tasks, as well as MOE/MOPs developed during phase 1 (commander's objectives, targeting guidance, and

intent) of the JTC. In doing so, the JFC can assign limited resources against the highest priority targets and target systems.

(c) During the entirety of the JIPOE process, analysts and planners remain cognizant of the law of war and ROE in planning attacks and engagements. Not only are direct attacks on civilian populations prohibited, but DoD policy requires that the harmful second- and third-order effects military operations can have on civilian populations be mitigated. Commanders use the civil information analysis provided by the civil-military operations planners or civilian environment teams to take measures early in the planning process to mitigate those harms and protect civilians.

(3) Target development uses a systematic view to examine adversary systems, their components, and their interrelated and dependent elements to identify and develop those critical target elements that, when engaged, produce the desired effects IAW the JFC's guidance, the ROE, and the law of war (see Figure III-3).

(a) Target systems are typically a broad set of interrelated and functionally associated elements that produce a common output or have a shared mission. These systems also have complex physical and logical sub-systems characterized by their

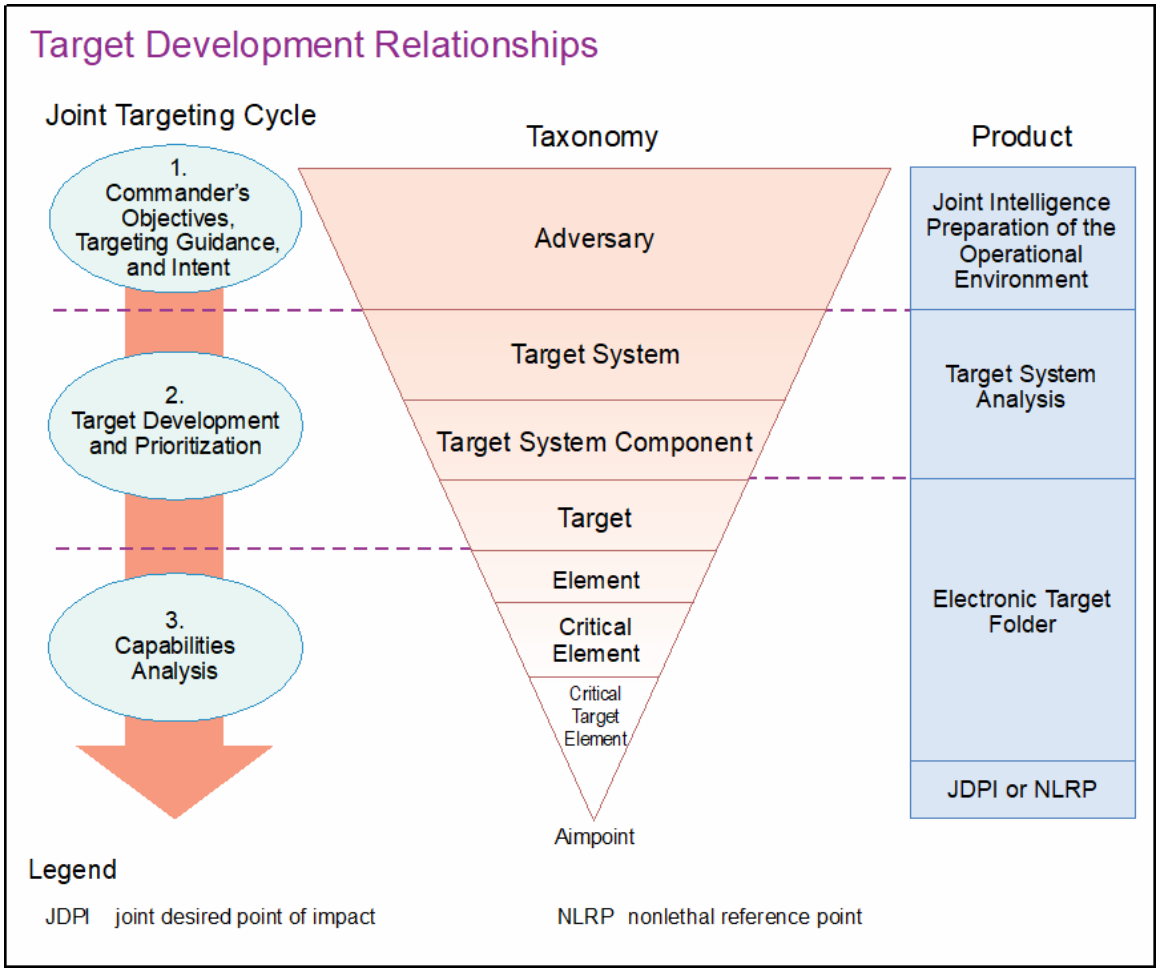

Figure III-3. Target Development Relationships

redundancy and their effectiveness throughout the OE. While a single target may be significant by its own function and characteristics, its **real importance lies in its relationship to other targets within a target system.**

(b) System-level target development links multiple target systems and their elements to reflect both intradependencies and interdependencies. A target system is most often considered a collection of assets directed to perform a specific function or series of functions (e.g., an integrated air defense system). While target systems are intradependent, they are also interdependent in support of other adversary capabilities (e.g., an electric power system may provide energy to run the railroads that are a key component of an adversary's military logistic system). JIPOE helps target analysts and developers prioritize an adversary's target systems based on how each constituent element contributes to the ability to conduct operations.

(c) Establishing intelligence collection requirements is critical to the success of target development and the entire targeting process. Targeteers should work closely with collection managers, intelligence analysts, and planners to develop and manage intelligence requirements throughout the targeting cycle and integrate them into the collection plan. This process should be flexible enough to adapt to an evolving OE.

(d) The target development stage should consider those elements of a civilian population (e.g., density, patterns of life, demographics) and civilian objects that may assist in mitigating harm during military operations. Target development should also consider the unique aspects of a particular target (e.g., chemical, radiological characteristics) and should include an expert-informed analysis (i.e., with the help of DTRA) of the anticipated effects of weaponeering options.

For more information on the targeting taxonomy, see CJCSI 3370.01, (U) Target Development Standards.

(4) **TSA.** TSA is the foundational military intelligence process of system-level target development that identifies an adversary's critical capabilities. The purpose of TSA is to identify vulnerabilities in adversary systems that lead to the discovery of HVTs and HPTs and to develop targeting strategies that can achieve the commander's objectives. TSA is equally applicable to systems and capabilities of both nation-state and non-state adversaries throughout military operations across the competition continuum. While planning during a crisis may necessitate a truncated TSA process, targeteers are required to compile enough intelligence to support a target's vetting and validation against the operational and legal requirements necessary to execute operations against that target.

(a) The initial step of TSA is to evaluate the target systems that are relevant to the operational effort. Examples of target systems might be an adversary's C2 structure; ground forces and facilities; infrastructure; corporate, economic, and financial entities; and strategic industries such as the petroleum, oils, and lubricants industry.

(b) Target system elements are a related group of entities within a target system that perform or contribute toward similar functions. For industrial systems, the

emphasis in the identification of system elements shifts from the system to specific activities such as the factories and basic utilities necessary to that particular strategic industry. For defense systems, the elements of a ballistic missile target system might include missile transporter erector launchers, resupply vehicles, C2 links and nodes, meteorological radars, missile fuel storage sites, deployment areas, and supporting road transportation networks. The same general analytic process applies for nonindustrial target systems. The elements of an insurgent or terrorist network might include its core leadership; overt and covert fighting elements; and training, logistics, and financial cells. They might also include its recruitment and propaganda activity in cyberspace, as well as geographical locations used as safe havens.

(c) Targeteers should consider a target's criticality and vulnerability when evaluating its value or payoff and how much its engagement contributes to the commander's objectives (see Figure III-4).

1. The **criticality** of a target measures its contribution to a target system's larger function and its relative importance within the target system. Target development should focus on identifying the critical nodes of key target systems that achieve the JFC's objectives. In the JPP, those nodes are often referred to as critical requirements, critical vulnerabilities, and centers of gravity. There are four factors that contribute to a target's criticality:

a. **Value**—measures the target's significance to the adversary's target system and to a friendly force's ability to accomplish a mission or achieve an objective. Significance is the degree of concern in excess of the value assigned to its normal performance. This value measurement may reflect the relative military, economic, political, psychological, informational, environmental, cultural, or geographic importance of a target system or entity. The psychological significance assigned to a target reflects the cultural importance or the strategic priorities of the adversary. For example, the birthplace of a political, religious, or cultural leader may hold greater psychological significance than its military value warrants.

b. **Depth**—an amount of time between the disruption of a target's activity and its measurable impact on system output. For example, the disruption to a

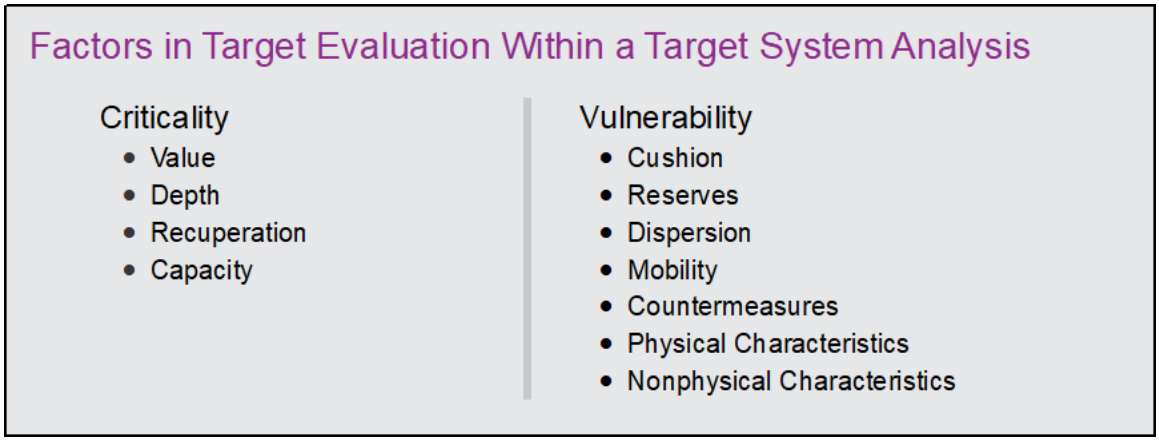

Figure III-4. Factors in Target Evaluation Within a Target System Analysis

primary C2 network could be felt immediately, while disruption to a production line for ammunition may take months to affect an adversary depending on the tempo of operations and available stockpiles. Understanding the target's depth provides the targeteer with an important measure of the time the adversary needs to organize substitute consumption or alternate production before the system is functionally degraded.

c. **Recuperation**—a measurement of the time and cost required for a target to regain its functional capability after being disrupted. By assigning each target a recuperation time factor, such as the days required to rebuild the facility or perform the original function, the amount of target recuperation per day can be estimated. The target analyst can then determine the timing or necessity for a reattack.

d. **Capacity**—measures two factors, **current output** and **maximum output**. Current output may be represented by such things as plant production based on the present labor force, economy of the country, current demand for the product, and demonstrated production over the past two or three years. Maximum output is an assessment that assumes continuous production at full capacity based on existing equipment over a 24-hour day.

2. **Vulnerability.** A target's vulnerability refers to its susceptibility to damage, disruption, intrusion, interference, or other operational effects. Vulnerability determines the scope and types of action required to damage, disrupt, or otherwise affect a target. The measure of vulnerability affects the weaponeering of specific targets, including such factors as munitions and fuzing requirements. The characteristics that contribute to a target's vulnerability are:

a. **Cushion**—a measure of the extent to which a single target can absorb damage or disruption and continue to function. Viewed another way, cushion is that characteristic of the target that must be affected to create the desired operational effects. Determining this characteristic for an industrial or a military target requires detailed analysis of the target's operation. For industrial targets, this analysis could include idle plant capacity, the substitution of replacement parts or materials, expansion capacity, its use for civilian production, or the production of nonessential military items.

b. **Reserves**—a quantity of stored resources that could be used when the normal supply of that resource is disrupted. The assessment of reserves depends upon the estimate of system use or flow rate. Normally expressed as a percentage, the measure of reserves is the ratio of products used to total products available.

c. **Dispersion**—the geographic or virtual distribution of targets and elements in a target system. A target with many dispersed elements presents a more difficult target engagement problem than a tightly concentrated target. Alternatively, dispersion may degrade the efficiency of the adversary's system capabilities by making its operations more complex.

d. **Mobility**—a measure of the time required to shift a target's function from one location to another. Mobility affects both the perishability of the

information about the location of the target and the joint force's ability to find, fix, track, target, and engage the target.

e. **Countermeasures**—the ability of the adversary or enemy to counteract the potential disruptive activity of the joint force through active and passive means. This can involve the use of terrain, camouflage, emission controls, and passive and active defenses to negate our efforts.

f. **Physical characteristics**—analyzed to determine a target's susceptibility to damage, disruption, or other effects. These characteristics might include such elements as weight, shape, volume, construction, and sturdiness.

g. **Nonphysical characteristics** of a target or target system—analyzed to determine its susceptibility to the effects of joint fires. The target's reliance on or use of cyberspace or the EMS can significantly increase or mitigate its vulnerabilities to attack. In addition, the ability of a cyberspace capability to create an effect depends upon whether or not the design of that capability adequately accounts for the specific design and configuration features of the target's hardware and software.

(5) **Entity-Level Target Development.** Entity-level target development builds on foundational TSA and generally occurs in three stages—basic, intermediate, and advanced. Each stage is defined by a minimum set of essential data required to progress an entity from initial identification and functional characterization to execution-level detail.

(a) Basic target development characterizes a target's function and assigns a unique identifier to the target. Basic target development mirrors the foundational military intelligence data discovered and maintained by IC agencies such as DIA and NGA.

(b) Intermediate target development further characterizes a target sufficiently to enable target validation and addition to a target list. This includes identification of critical elements, neutralization of which can decisively affect the target's function.

(c) Advanced target development completes the target characterization process and defines the minimum intelligence necessary to plan for effective target engagement. This stage of development requires weaponeering (creation of JDPIs or NLRPs and CDE/CEE according to the standards set by the target engagement authority) and target material development.

(6) A target is considered fully developed when sufficient intelligence exists to support the operational and legal requirements necessary to proceed with military operations against the target. The minimum operational and legal requirements are PID and validation by ROE.

(a) Once an entity has been identified as a potential target (known as a target development nomination), the primary function of the target should be identified (i.e., an ETF should be created on the primary function [see Step 1 of Figure III-5]). If the primary function has already been identified and an ETF developed, secondary functions should be

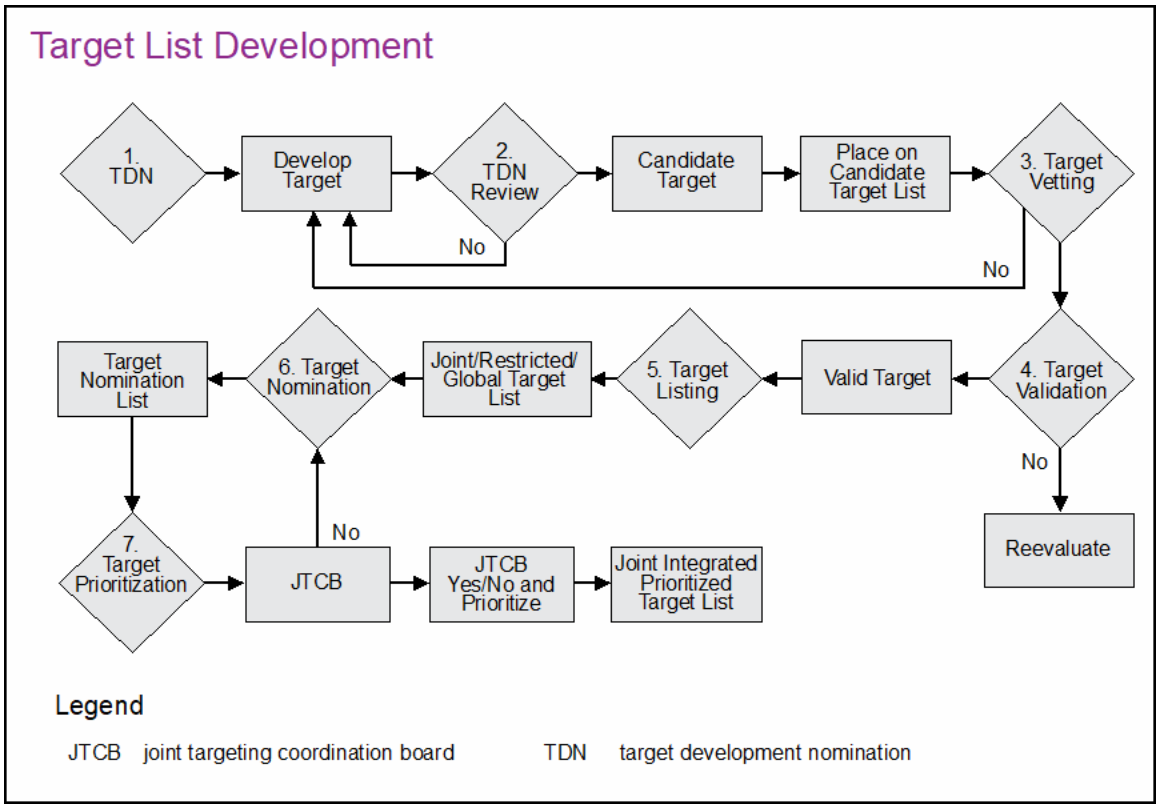

Figure III-5. Target List Development

coordinated for inclusion. ETFs are a set of web pages and/or links to metadata-tagged target materials that are stored and maintained in the Modernized Integrated Database (MIDB) and in the Machine-assisted Analytic Rapid-repository System environment, which is replacing the MIDB. ETFs are used to store entity-level target intelligence, operational planning, and legal information. Each entity is assigned a unique identification alphanumeric character set in approved national databases. Target material may be presentations of target intelligence and stored in ETFs.

(b) Target development nominations are developed further and, when intermediate target development and command quality control standards are met, the entity is placed on a CTL.

(c) Capabilities that create lethal effects normally require an aimpoint for weapon impact or penetration. Aimpoints are selected for targets based on an analysis of critical elements to ensure their engagement creates the desired operational effects. Aimpoint analysis and development, while part of target development, is also linked to the capabilities analysis phase of the targeting cycle. Aimpoints, which can include a temporal aspect, are normally expressed as geographic coordinates of a grid reference system, a logical reference, or a radio frequency. Types of aimpoints include a desired point of impact normally associated with the use of precision-guided munitions, desired mean point of impact, and the JDPI. The JDPI is a unique, alphanumeric-coded aimpoint identified by a three-dimensional mensurated point and is used as the standard for identifying aimpoints.

(d) For capabilities that create nonlethal effects, an NLRP designates the location of the target. NLRPs are always associated with a target entity or element that may or may not correspond to a physical location. Unlike a JDPI, an NLRP does not represent a precise three-dimensional geocoordinate that has been measured by a certified analyst. For purposes of database entry, NLRPs are entered as aimpoints.

See CJCSI 3370.01, (U) Target Development Standards, *and CJCSI 3505.01,* Target Coordinate Mensuration Certification and Program Accreditation, *for additional information regarding the analysis and development of JDPI.*

(7) **Target List Management.** Target list management is a continuous process throughout the JTC that begins when an entity is nominated for target development and ends when a target is no longer applicable to a plan's objectives and effects. This management includes a series of important milestones necessary to move a prospective target forward in this process—vetting, validation, listing, nomination, prioritization, and removal, where applicable. Target list management is a command-specific function generally shared between the joint force J-2 and J-3. Vetting and validation are two significant aspects of target list management.

(a) **Target Vetting.** Target vetting is an optional process initiated by the JFC to mitigate strategic and operational risk associated with engaging a target. Target vetting is supported by the IC to properly characterize the functions a target(s) performs for the adversary and highlight considerations for its engagement by the joint force. For example, an agency might remark that there are "collateral damage considerations" for a specific target(s). Alternatively, a previously valid military target may need vetting if its function has changed, (e.g., an HQ now has a civilian function as an administrative building but also serves as the hub of an information technology network that enables adversary C2 functions). Vetting should not be a universal requirement for all targets, as this significantly strains IC capacity and could be detrimental to ensuring high-risk targets are analyzed in the time available. The response from the IC concerning the vetting of a specific target does not restrict a commander's authority to engage that target. However, it is meant to clarify both the risk and uncertainty associated with a given target.

(b) **Target Validation.** The authority and responsibility to validate targets resides with a CCDR. Unlike target vetting, all candidate targets go through the commander's target validation process before being added to a target list. Target validation ensures candidate targets meet the objectives and criteria outlined in the commander's guidance and ensures compliance with the law of war and ROE. Candidate targets go through a target validation board or similar body and are validated by the target validation authority before being added to a target list.

1. **Target validation authority** is assigned to an individual with all necessary authorities to validate targets, approve changes to target lists, and approve target restrictions on behalf of a CCDR. The CCDR may delegate target validation authority to a subordinate JFC or designated authority (normally the deputy JFC or the J-3) within the JFHQ. This authority may not be further delegated to assigned, attached, or supporting organizations, except as otherwise stated in a plan, order, or CONOPS.

2. **Target Engagement Authority.** Target engagement authority is the authority and responsibility to engage targets, which may be delegated to subordinate commanders that rests with the JFC responsible for the OA.

Target engagement authority is related but distinct from target validation authority. The authority to validate targets does not imply authority to engage targets. Target validation authority is the authority to put a target on a joint target list/restricted target list; target engagement authority is the authority to engage a target.

(8) **Target Lists.** Various target lists may be used by the JFC, component HQ, and supporting commands throughout the JTC (see Figure III-5). However, only those validated targets on the JTL, RTL, or GITL can be nominated to a JIPTL. Therefore, responsive and verifiable procedures must be in place to facilitate additions or deletions to these lists. The joint targeting process uses the following target lists:

(a) **Target Development Nomination List.** A list of nominated entities that meet basic target development criteria but require intermediate target development before submittal as a candidate target.

(b) **CTL.** A CTL is a list of entities submitted by component commanders, appropriate agencies, or the JFC's staff for further development and inclusion on the JTL, GITL, RTL, or NSL.

(c) **JTL.** A JTL is a list of validated targets for which there are no target engagement restrictions.

(d) **RTL.** An RTL is a list of validated targets for which there are engagement restrictions. Actions that exceed specified restrictions are prohibited until coordinated and approved by the establishing HQ. Targets may have certain specific restrictions associated with them that should be clearly documented in the ETF (e.g., coordinate with a specific national agency or do not use cluster munitions). Engaging restricted targets without due regard for the specified restriction(s) may be a violation of the law of war, inadvertently cause a friendly fire incident, or interfere with future joint operations. When targets are restricted from lethal effects, commanders may consider nonlethal capabilities to achieve or support their objectives. A specific weaponeering solution does not imply a target restriction.

(e) **NSL.** The NSL is not a target list, though it is a critical part of the joint targeting process. The NSL is a list of entities defined by the law of war, functionally characterized as noncombatant in nature, and protected from the effects of military operations under international law and ROE (e.g., cultural and religious sites, embassies belonging to noncombatant countries, hospitals, schools). These objects are often referred to as no-strike entities. The NSL, and the process inherently necessary to create one, reflect essential elements of US policy regarding the mitigation of civilian harm.

1. Attacking these objects and entities may violate the laws of war or interfere with friendly relations with other nations, indigenous populations, or governments. NSLs are continuously updated with the latest information from the OE.

2. CCMDs with geographic responsibilities are required to develop and maintain an NSL for their AOR. Other CCMDs and agencies may propose no-strike entities to responsible JFCs for inclusion on their respective NSLs.

For additional information, see Appendix A, "Legal Considerations in Targeting." For more information and examples on no-strike entities and NSLs, see CJCSI 3160.01, (U) No Strike and the Collateral Damage Estimation Methodology. *For more information on the protection of civilians, see DoD Instruction 3000.17,* Civilian Harm Mitigation and Response, *and DoD's* CHRM-AP.

(f) **GITL.** Global integration, as outlined in JP 1, Volume 1, *Joint Warfighting,* prioritizes operations and resources on a global basis to enable senior leaders to pursue strategic and operational-level objectives. To support global integration, the GITL is an overarching JTL or RTL in support of global campaigns and operations that refers to supporting command targets validated by supported JFCs. The purpose of a GITL is to increase visibility, prioritization, and synchronization of all targets that could be engaged in or outside the supported JFC's OA. Every target on a TNL derived from a GITL is considered and prioritized for engagement and inclusion on the supporting JFC's JIPTL at every JTCB. These targets, for a variety of different reasons, might not rise to the level of a JIPTL in that AOR or JOA, but they are considered, nonetheless. The validating CCMD (or a different CCMD by agreement) will conduct target maintenance per CJCSI 3370.01, *(U) Target Development Standards.*

(g) **TNL.** A TNL is a list of targets nominated by component HQs, supporting and supported CCMDs, and the JFC's staff for engagement during a predetermined execution period (e.g., an ATO or ITO period). Organizations submit separate TNLs for each execution period.

(h) **JIPTL.** A JIPTL is a prioritized list of targets approved by the JFC (or a designated representative) that focuses targeting and fires for the designated ATO or ITO period. The draft JIPTL is normally approved at the JTCB.

1. **JIPTL Approval Authority.** The JFC may delegate authority for JIPTL approval within the HQ for a specific plan, order, or CONOPS. The JIPTL approval authority reviews and approves JIPTLs that support the JFC's objectives and guidance. Additional actions may include modification to or deletions from approved JIPTLs.

2. **JIPTL Coordination Authority.** The JFC may delegate to a supporting organization or component HQ the development and management of the JIPTL(s) for a specific plan, order, or CONOPS. This task includes collecting, reviewing, and prioritizing nominated targets that support the JFC's objectives.

3. The JIPTL approval authority is separate and distinct from the target validation authority resident within the J-2.

(9) **Target Nominations to JIPTL**

(a) Targets from the JTL, RTL, and GITL can be nominated by component HQs, supporting commands, or the JFC's staff and placed onto TNLs (see steps six and seven of Figure III-5). Targets not on the JTL or RTL should have an accompanying CONOPS that supports the nomination to the TNL. Coordinating with the component HQ and the supported JFC for GITL nominations, the JFE compiles the TNLs into a draft JIPTL and submits it to the JTCB. Following JTCB review, the final draft is submitted to the JFC or a designated representative for approval. Once approved, the list is transmitted to all component HQs and appropriate agencies as the JFC's approved JIPTL.

(b) Targets can be nominated and follow the deliberate targeting process outlined above, or they can be treated as TSTs that could be engaged using dynamic targeting. If targets are to be engaged using deliberate targeting, then the find, fix, track, target, engage, and assess steps may simply confirm, verify, and validate previous JTCB decisions. The order of targets on the JIPTL indicates relative target priority from the point of view of the JFC. It is not intended as an engagement sequence. Therefore, it is possible that targets might not be engaged during the ATO or ITO period in the same order as they appear on the JIPTL.

c. **Phase 3—Capabilities Analysis**

(1) In this phase of the JTC (Figure III-2), the targeting staff evaluates all available joint force capabilities against JIPTL targets to determine the best engagement options by the component HQ. The purpose of this phase is to weigh the relative effectiveness of the joint force in achieving its objectives. Commanders, through the JFE, are responsible for assessing risk to force and risk to mission. When analyzing joint force capabilities, the JFE considers the risk to force and risk to mission as primary factors for follow-on planning. This capability analysis also affects the apportionment process and the subsequent force assignment decisions of component and supporting commands. Capabilities analysis consists of four steps:

(a) **Target Vulnerability Analysis.** Target vulnerability analysis reveals those aspects of the target that, if engaged, result in a reduction of the target's ability to perform its function(s) for an adversary. When countering threat networks, examine their resiliencies in this phase.

(b) **Capabilities Assignment.** Once a target's vulnerabilities are known, the designated component or supporting command conducts weaponeering to assign appropriate joint force capabilities to create the desired operational effects. The joint force has the capability to create either lethal or nonlethal effects during military operations across the competition continuum.

(c) **Feasibility Assessment.** Once joint force capabilities are assigned to an adversary's vulnerabilities, a list of asset target interactions is created and evaluated. Each asset target interaction is then evaluated for feasibility. For example, a lethal weapon might

be able to neutralize a particular target's function, but because of the location of the target, this asset target interaction might be unfeasible.

(d) **Effects Estimate.** Effects estimation is intended to characterize the risk and extent of collateral damage or effects for a commander. Each feasible asset target interaction should have first-, second-, and higher-order effects identified. CDE/CEE of fires are considered second- or higher-order consequences. CDE/CEE are processes normally performed by trained and certified personnel. The commander assumes additional risk if trained and certified personnel are not used. Higher-order effects may include an estimate of harm to the civilian population, diplomatic and public relations consequences arising from collateral damage, or potential post-hostility economic costs to restore enemy infrastructure. Effects estimates should also consider repair and recuperation (or reconstitution) times. Any intelligence gaps identified during this phase should also be used to refine collection requirements.

(2) Capabilities analysis should consider the capabilities of joint forces for use against a target, the means of delivery, the weapons characteristics, and the weather conditions throughout all mission phases, including ingress and egress. Capabilities analysis may also inform the JFC's choice of a COA or the inclusion of supporting all-domain fires to reduce risk and increase the probability of success.

(3) All estimates generated during this phase are situation-specific, reflecting the pairing of forces against targets under particular conditions of employment. As such, users of this information should exercise caution in assuming that the estimated effectiveness of a force capability under one set of circumstances is broadly applicable to other circumstances. Relatively minor targeting variations may have an unintended impact out of proportion to the expected effects. It is equally important to stress that these estimates of performance are not designed to take into account external factors such as whether or not a delivery system survives and reaches the target.

(4) Weaponeering is generally conducted during capabilities analysis. It is the process of determining the quantity of a specific capability or means necessary to create the desired lethal or nonlethal effects on a given target. In operations in the information environment, while there might not be a weapon involved, weaponeers look to the right capability to best shape or influence the cognitive dimension. In irregular warfare, counter threat finance activities might place uniquely qualified personnel with appropriate law enforcement personnel to affect the target. Weaponeers focus on the target's physical, functional, virtual, cognitive, and environmental characteristics to determine how to leverage a weapon's capabilities against a target's vulnerabilities.

(a) Initial weaponeering is typically performed within advanced target development prior to placement on the draft JIPTL. Since not all targets require advanced target development, only prioritized targets on the JIPTL should require the extra effort necessary to weaponeer to higher fidelities, using Joint Technical Coordinating Group for Munitions Effectiveness methodologies.

(b) Planners and weaponeers should not arbitrarily exclude any available capability that can create the desired operational effect(s). The Services and some DoD agencies have developed several quantitative techniques to estimate weapon effectiveness of means of attack and evaluate the risk of collateral damage. The Joint Technical Coordinating Group for Munitions Effectiveness has also developed operational and analytical models used to measure and predict munitions effectiveness. These models produce a large body of scientifically valid data which enable weaponeers to predict the effectiveness of weapons against most targets. Inputs to these calculations include target characteristics (e.g., size, shape, and hardness), desired damage criteria or probability of damage calculations, and delivery parameters (e.g., altitudes, range to target, and angle of impact). Outputs of the model include the predicted effectiveness of specific weapons against selected targets or the scale of force required to create desired operational effects using specific weapons and delivery systems.

(5) Social network analysis is often used to counter threat networks and is normally part of the JTC phase 3 (capability analysis). When countering threat networks of state or non-state actors that may be located in a single contiguous area, special considerations should be taken. It may take time to fully realize the desired operational effects. For example, a persistent series of lethal strikes killing large numbers of enemy combatants (a first-order effect) can demoralize other enemy fighters (a second-order effect) and may lead to mass surrender or defection, diminishing the capacity and capability of the enemy force (the third-order effect). As part of their response to being targeted, networks often change behaviors or develop new functions instead of reconstituting their original targeted functions.

For more information on unique targeting processes to counter threat networks, see JP 3-25, Joint Countering Threat Networks.

(6) CDE is a critical part of the effects estimate step in JTC phase 3 (capability analysis) when conventional lethal capabilities are used. Targets with associated collateral damage concerns expected to exceed CCDR- or JFC-approved sensitive target criteria are referred to the appropriate authority using the sensitive target approval and review process. For all engagements, targeteers should characterize the level and extent of collateral risk to the commander (e.g., the adverse consequences to diplomatic and public relations or the effects on civilian infrastructure [including electronic networks]).

d. **Phase 4—Commander's Decision and Force Assignment**

(1) The capabilities analysis and force assignment phases of the JTC are closely related. The force assignment process is primarily an operations function but requires considerable intelligence support. The process of resourcing JIPTL targets with available forces, systems, capabilities, and intelligence collection assets, weighed against the commander's risk tolerance guidance, lies at the heart of force assignment (see Figure III-6). This process links theoretical planning to actual operations. Following JIPTL approval,

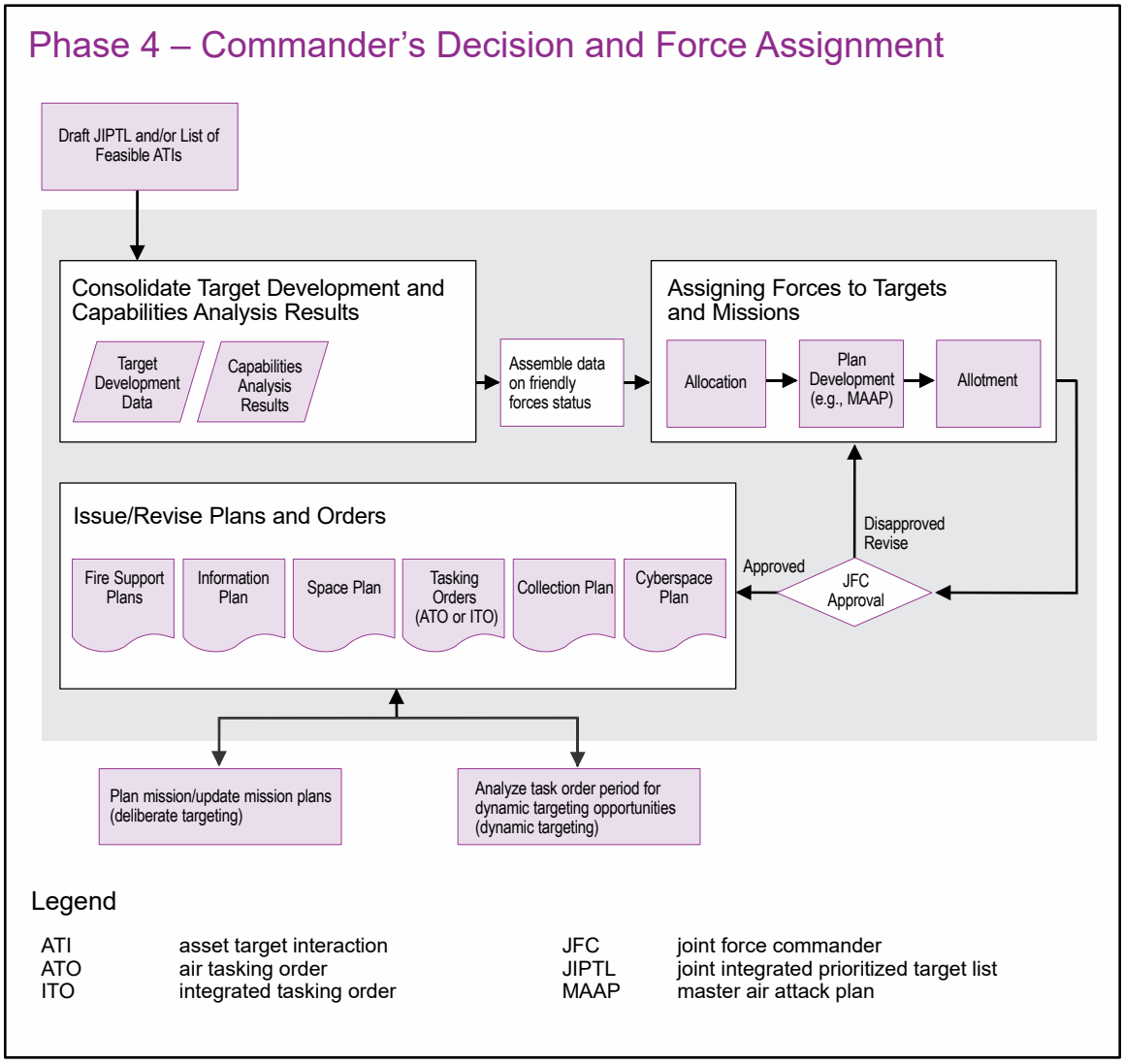

Figure III-6. Phase 4 – Commander's Decision and Force Assignment

the component HQ and supporting commands are tasked with engaging their assigned targets through an ITO or other orders.

(2) The work of component and unit mission planners is significantly enhanced when furnished with the reasoning that resulted in their unit tasking. By providing the factors used in these assignments to the mission planners and by providing them with collaborative tools within the targeting community, mission planning can be adjusted and fine-tuned.

(3) Since variations in tactics may be required that could affect results in the target area, the force assignment process also provides a channel to discuss the mitigation of risk through detailed integration and synchronization of the joint force across all domains. The joint targeting process is required to account for these variations and adjust the commander's expectations accordingly. This is a critical path of information during mission execution that reduces the likelihood of confusion within the joint force.

(4) Before deciding to engage a target, commanders should consider the concerns of the IC, especially if intelligence gains/losses is a factor for a particular target or target set. The IC initially identifies concerns for a target during phase 2 (target development and prioritization) of the JTC and should be given the opportunity to readdress their concerns in the JTWG, the JTCB, or other appropriate venue, especially if considerable time has passed since the target was validated.

(5) Before deciding to engage a target in cyberspace, commanders should also conduct a technical gain/loss analysis. Since target vulnerabilities in cyberspace are often easily corrected once exposed, using a cyberspace capability to exploit a specific vulnerability may alert the enemy or other observers to the existence of that vulnerability and reduce the future usefulness of cyberspace capabilities that rely on the existence of that vulnerability.

(6) **Five General Steps in Force Assignment**

(a) **Consolidate Target Development and Capabilities Analysis Results.** In this step, targeting personnel assemble the necessary data from the work done in phases two and three. ETFs should contain four types of information—target development data, capabilities analysis that includes the number of assets required, CDE/CEE, and attrition calculations.

1. **Target Development Data.** The process of target development produces extensive, detailed ETFs and supporting products for each target on the JIPTL. To condense this material, targeteers prepare target briefs summarizing the contents of the ETF.

2. **Capabilities Analysis.** During capabilities analysis, the expected damage for a target is matched with known weapons effects. Critical factors in this analysis include forces, delivery systems, weapons fuzing and reliability, delivery parameters, and meteorological conditions in the target area. The targeting team normally requires several possible weaponeering solutions, arranged in order of effectiveness, for each target.

3. **CDE/CEE.** A CDE for lethal effects and a CEE for lethal and nonlethal effects are required for all targets that have a weaponeering solution. A CDE/CEE also advises the commander of any risk to mission and any strategic or operational risk due to collateral damage.

4. **Attrition Calculations.** Intelligence analysts provide data on enemy defensive posture, capabilities, and intentions. Weaponeers run attrition models to estimate the probability that a weapon system will arrive at the target (the probability of arrival, which includes the probability of release of a weapon). This analysis includes such factors as maintenance failure, defenses, and weather. Weaponeering personnel may be required to factor this attrition analysis into their probability of damage calculations.

(b) **Assemble Data on Friendly Forces (including Operational Limitations and Apportionment Guidance).** Component planners assemble data on the status and availability of friendly forces, munitions, and other mission-support capabilities.

The JFC, with recommendation from the JFACC, determines air apportionment for the execution period. Appropriate commanders recommend to the JFC the apportionment of other joint capabilities and forces to create lethal and nonlethal effects. Simply knowing, however, what forces and capabilities are available does not give the complete operational picture. Component planners should consider weather, enemy operations, force protection concerns, the law of war, ROE, and other restraints and constraints. Packaging, timing, the structure of OAs, required support assets (e.g., availability of electromagnetic warfare support or air refueling aircraft for aerial missions), and other considerations also affect which targets can be engaged.

(c) **Assign Forces and Capabilities to Specific Targets and Supporting Missions.** In this step, planners assign forces, munitions, capabilities (including cyberspace capabilities), activities (including space support, EMS operations, and information activities), and intelligence collection assets to specific targets. They develop force packages, assign supporting assets, and resolve deconfliction issues in time and space.

1. Operational limitations may require modification to targeteers' initial recommendations. Feasible precautions are taken to avoid friendly fire incidents and to minimize civilian casualties and damage to civilian structures. The operational characteristics of a particular weapon system may require adjustments to the plan or order. When changes are necessary, targeteers prepare to assist in evaluating the impact of these changes on the entire targeting effort. Commanders and planners ensure changes do not inadvertently violate operational restraints and constraints, as well as other limitations such as the law of war and ROE.

2. Planners endeavor to ensure sufficient intelligence collection assets are made available and properly integrated into the plan. The prioritization of these assets is completely dependent on validated and prioritized intelligence collection requirements.

(d) **Present Joint Targeting Recommendations to the JFC for Approval.** The decision of the JFC (or a designated representative) in phase 4 is to either approve, approve with modifications, or disapprove the draft JIPTL. Generally, operations and intelligence staffs work together to produce and brief the recommended plan. Component planners, working with other liaisons, prepare a comprehensive briefing on the recommended plan explaining the rationale behind the operational decisions and target selections. Planners inform the JFC and the affected component commander(s) if nominated targets cannot be engaged or targeting effects cannot be created to support achievement of objectives. Component commanders may modify a targeting effect, seek a different means to achieve the objective, or accept the fact that the targeting effect might not occur during a particular targeting cycle. If so, it may be necessary to ask the JFC to modify the timing of attacks.

(e) **Develop and Disseminate Tasking Orders.** Once the plan is approved, the JFE (or other designated organization) develops applicable tasking orders to component HQs and supporting commands. The ITO is one type of order promulgated by a JFC to integrate and synchronize fires from all domains throughout the OA. The ITO includes enough operational and tactical detail to create the commander's desired effects within a

finite time and space. Intelligence units and organizations that support mission planning and assessment are also tasked during this phase.

e. **Phase 5—Mission Planning and Force Execution**

(1) Upon receipt of component tasking orders (including an ATO or ITO), detailed, unit-level planning is performed for the execution of operations. Figure III-7 illustrates the typical process flow of this phase. The joint targeting process supports this planning by providing component planners with direct access to detailed information on the targets, supported by the nominating component's analytical reasoning that links the target with the desired effect (phase 2).

(2) The joint targeting process enables commanders to decisively use joint force capabilities to seize and maintain the initiative. During execution, the OE changes because of actions by the joint force, its enemies, and other parties. These dynamic changes require particular attention to PID, CID, target validation, and changes to CDE/CEE.

(a) **PID** is the identification derived from observation and analysis of target characteristics, including visual recognition; electromagnetic warfare support systems; cyberspace exploitation of the target; noncooperative target recognition techniques; identification, friend or foe systems; appropriate levels of certainty of geolocation and functional characterization; or other physics-based identification techniques. PID is required during step 2 of dynamic targeting—find, fix, track, target, engage, and assess.

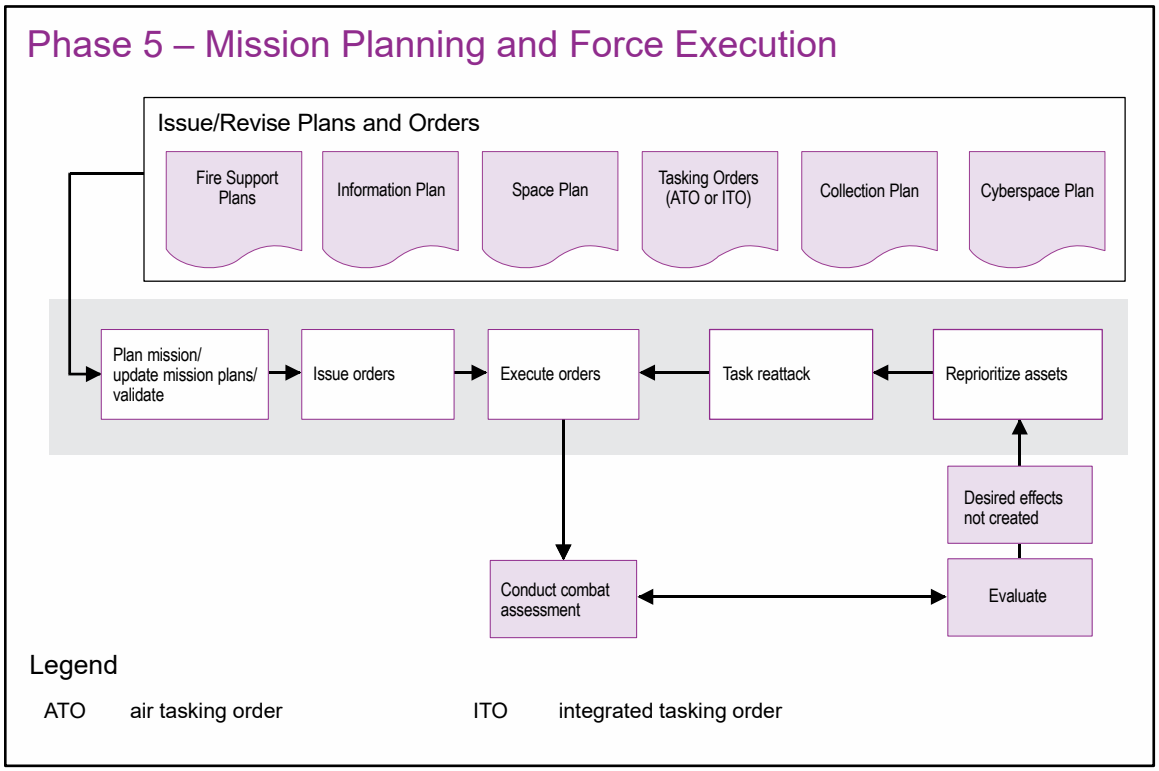

Figure III-7. Phase 5 – Mission Planning and Force Execution

CID is the process of attaining an accurate characterization of detected objects in the OE sufficient to support an engagement decision. CID is required prior to engagement.

For details on the expression of likelihood or probability, see JP 2-0, Joint Intelligence.

(b) During execution, planners and unit commanders conduct continual analysis to determine if planned targets on the ATO or ITO still contribute to the commander's objectives, if targets are accurately located, and how planned actions impact other friendly operations.

f. **Phase 6—CA**

(1) The CA phase examines the results of target engagement. It is a continuous process that assesses the effectiveness of the activities that occurred during the first five phases of the JTC. CA helps the commander and staff determine if the ends, ways, and means of the joint targeting process have resulted in progress toward accomplishing a task, creating an effect, or achieving an objective. CA occurs at the strategic, operational, and tactical levels of warfare.

(2) The CA phase is common to both deliberate and dynamic targeting of the joint targeting process. Effective assessments require detailed, continuous inputs from the first five phases of the joint targeting process. The outputs from phase 6 are BDA products, MEA, CDA and collateral effects assessment, and reattack recommendations. For the assessment of nonlethal effects, the intended target(s) requires continuous assessment for an unknown period. Commanders and staffs should understand that activities such as civil-military operations, military information support operations, cyberspace operations, or countering threat networks may take time (sometimes days, weeks, or months) to determine if the desired operational effects have been created.

For additional information on CA, see Appendix C, "Combat Assessment," and CJCSI 3162.02, Methodology for Combat Assessment.

4. Time-Sensitive Target Considerations

a. **Objectives and Guidance for TSTs.** Targets identified too late or not selected for action in time to be included in deliberate targeting are prosecuted using dynamic targeting. The JFC's objectives and guidance shape the basic procedural framework for component HQs to expedite the engagement of TSTs. Once this guidance is issued, the component HQ establishes planned and responsive procedures for engaging prioritized TSTs. JFC guidance on TSTs supports both deliberate and dynamic targeting and includes the following:

(1) Establishing planned FSCMs and air space deconfliction against specific TSTs.

(2) Defining the authority for the engagement of TSTs based on a JFC's mission and the OE. The JFC should normally define those situations, if any, in which immediate engagement of the TST outweighs the potential for duplication of effort. The JFC should carefully balance the risk between the TST and the potential for friendly fire and collateral damage.

(3) Identifying specific communication requirements between component C2 elements that conduct rapid TST engagement. This normally includes authorizing direct liaison and coordinating authority.

(4) Those targets that component commanders consider TSTs should be coordinated with other priorities at the JTCB.

(5) Since TSTs are time-sensitive and often fleeting, they tend to be engaged via the dynamic targeting process. However, the guidance, validation, prioritization, assessment, and collection requirements apropos to developing TSTs can often be accomplished during pre-operational planning as part of the deliberate targeting process.

b. **Risk Assessment Considerations for TSTs**

(1) A critical aspect of successful TST engagement is to understand the level of risk acceptable to the JFC. Abbreviating or modifying portions of the targeting process could increase the risk to friendly forces, noncombatants, and civilians; possible collateral damage; and the disruption to the campaign plan incurred by diverting assets from their original missions. These considerations are weighed against the opportunity cost or danger of failing to engage the TST and the consequential risk of mission failure.

(2) Successful prosecution of TSTs requires a well-organized and well-rehearsed process for sharing sensor data and targeting information, identifying suitable strike assets, obtaining mission approval, and rapidly deconflicting engagement methods. The key to success is to perform as much coordination and decision making as possible in advance.

(3) The on-scene commander's knowledge of JFC guidance and intent can greatly accelerate decision making and reduce the reaction time between detection and engagement. This is critical when time compression precludes thoroughly coordinating all decisions and actions. For this to occur, the JFC articulates objectives, guidance, priorities, and intent for TSTs. This is usually collected and disseminated by the JFE through the ATO or ITO process.

(4) The appropriate response for each TST often depends on the scale of conflict and established ROE. For example, large-scale combat operations between large units of air, land, and maritime forces are characterized by a large quantity and high frequency of TSTs appearing across large OAs. The JFC may, in order to respond quickly, accept a higher level of risk to friendly forces or collateral damage to civilians when attacking enemy high-priority TSTs (e.g., WMD). Alternatively, during a contingency operation(s), the risk of collateral damage with significant second- and third-order effects may require more detailed and time-consuming coordination.

c. **C2 for TST Operations**

(1) **TST Operations.** The C2 node that has the best information, communications, or situational awareness to execute the mission should have the authority to plan and engage the TST. Generally, TSTs are engaged using dynamic targeting (see paragraph 5, "Dynamic Targeting Process"). Therefore, C2 arrangements should include

the rapid identification and communication capabilities required for expedited decision making. Overall responsibility for mission execution remains with the component HQ to accomplish coordination and deconfliction. Placing the appropriate level of authority at subordinate C2 nodes can streamline the C2 process and facilitate timely engagement. Decentralized C2 nodes can exchange sensor, status, and target information with a fidelity that permits them to operate as a single, integrated C2 network. Tied together by wide area networks and common interactive displays, they can effectively perform decentralized and coordinated execution of TST engagement. Coordination and deconfliction of multinational forces may lead to additional challenges and should be addressed during planning through liaison officers or representatives of the respective nations.

(2) **Compressed Decision Cycles.** The successful planning and engagement of TSTs may require a compressed decision cycle. To compress the decision cycle successfully, the JFHQ and supporting commands should be thoroughly familiar with the details of each step of the JTC. This should include detailed prior planning and coordination within the joint force, a thorough JIPOE, employment of interoperable and robust communications systems, and clear guidance on what constitutes a TST.

5. Dynamic Targeting Process

a. The dynamic targeting process is a condensed execution phase that is not determined by the type of target being engaged. During dynamic targeting, targets are prosecuted outside of the 24-hour ATO or ITO cycle using the condensed process of find, fix, track, target, engage, and assess (see Figure III-8). Its applicability extends to all targets, whether developed during deliberate planning (known, planned) or during current operations (unknown, unplanned). Due to the fleeting nature, or time sensitivity, of these targets of opportunity, decisions on when and how to engage are made quickly and decisively. The steps of the dynamic targeting process may be accomplished iteratively or in parallel. The find, fix, track, and assess steps tend to be intelligence, surveillance, and reconnaissance-intensive, while the target and engage steps are typically operations-intensive. In countering threat networks, the find, fix, finish, exploit, analyze, and disseminate methodology is used and can support dynamic targeting of network nodes, when timing is crucial, but also follow-on targeting through timely exploitation and analysis. During a peer fight, when large numbers of targets may appear in the OE without warning, the dynamic targeting process is still applicable.

b. Phases 1 through 4 of the JTC collectively produce various products and perform a variety of tasks, whether deliberate or dynamic. In coordination with component HQs and combat support agencies, the JFC and staff develop dynamic targeting guidance. This guidance should include, at a minimum, priorities, guidance, and requirements for the component HQ, guidance for acquisition of specific targets, and specific actions against those targets. The JFC should articulate a tolerance of risk in sufficient detail for on-scene commanders to understand commander's intent when dynamic targeting requires accelerated coordination or reprioritization of collection or attack assets.

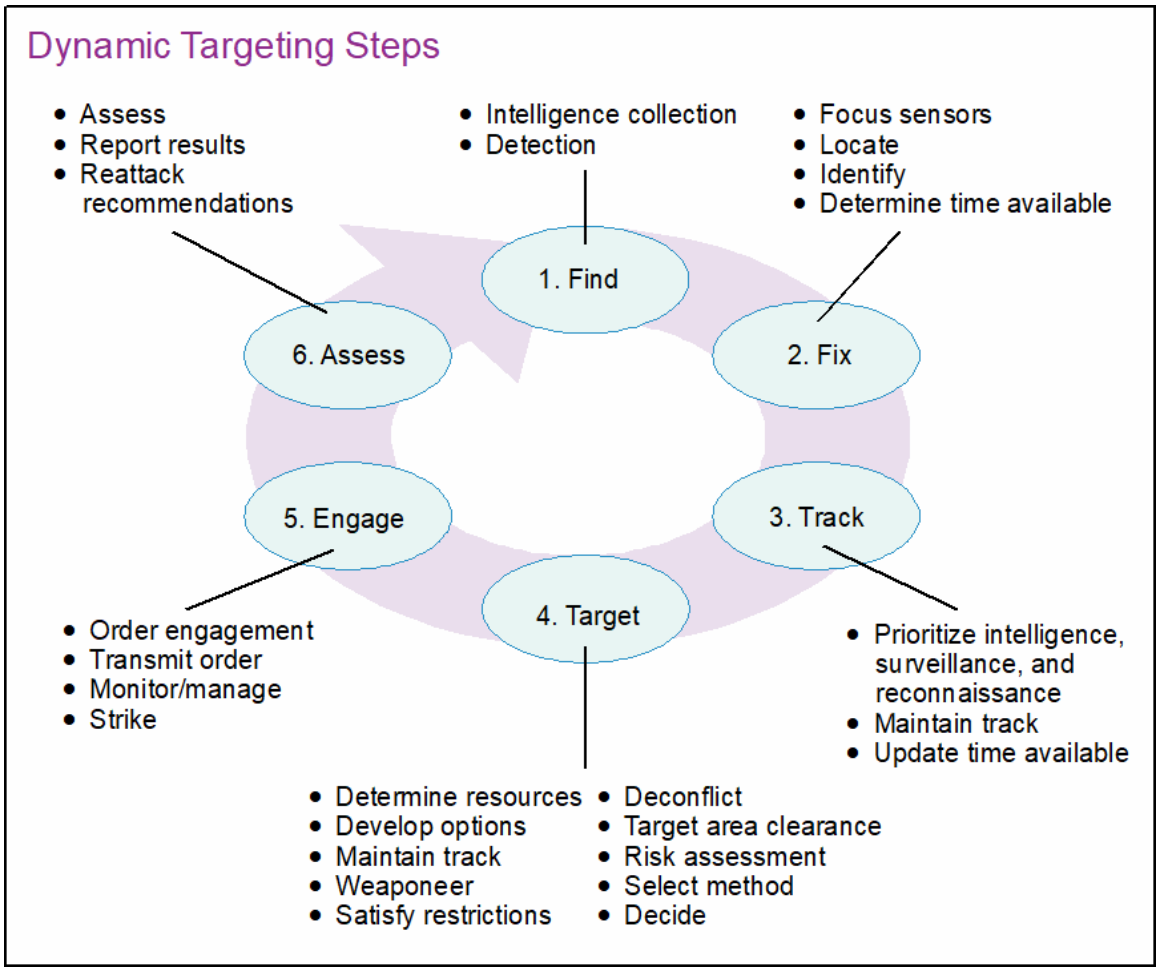

Figure III-8. Dynamic Targeting Steps

c. The dynamic targeting process is as follows:

(1) **Step 1—Find**

(a) During this step, emerging targets are detected and characterized for further processing (see Figure III-9). Intelligence collection assets such as aircraft targeting pods, radar warning receiver indications, cyberspace exploitation, and special operations forces may provide initial detection of a potential target for both deliberate and dynamic targeting. In this section, the term "sensor" refers both to traditional and nontraditional intelligence collection means.

(b) Inputs to the find step:

1. Clearly delineated dynamic targeting process guidance and priorities.

2. Focused JIPOE and planning, to include identified named areas of interest, target areas of interest, and cross-cueing of intelligence disciplines to identify potential target deployment sites or OEs.

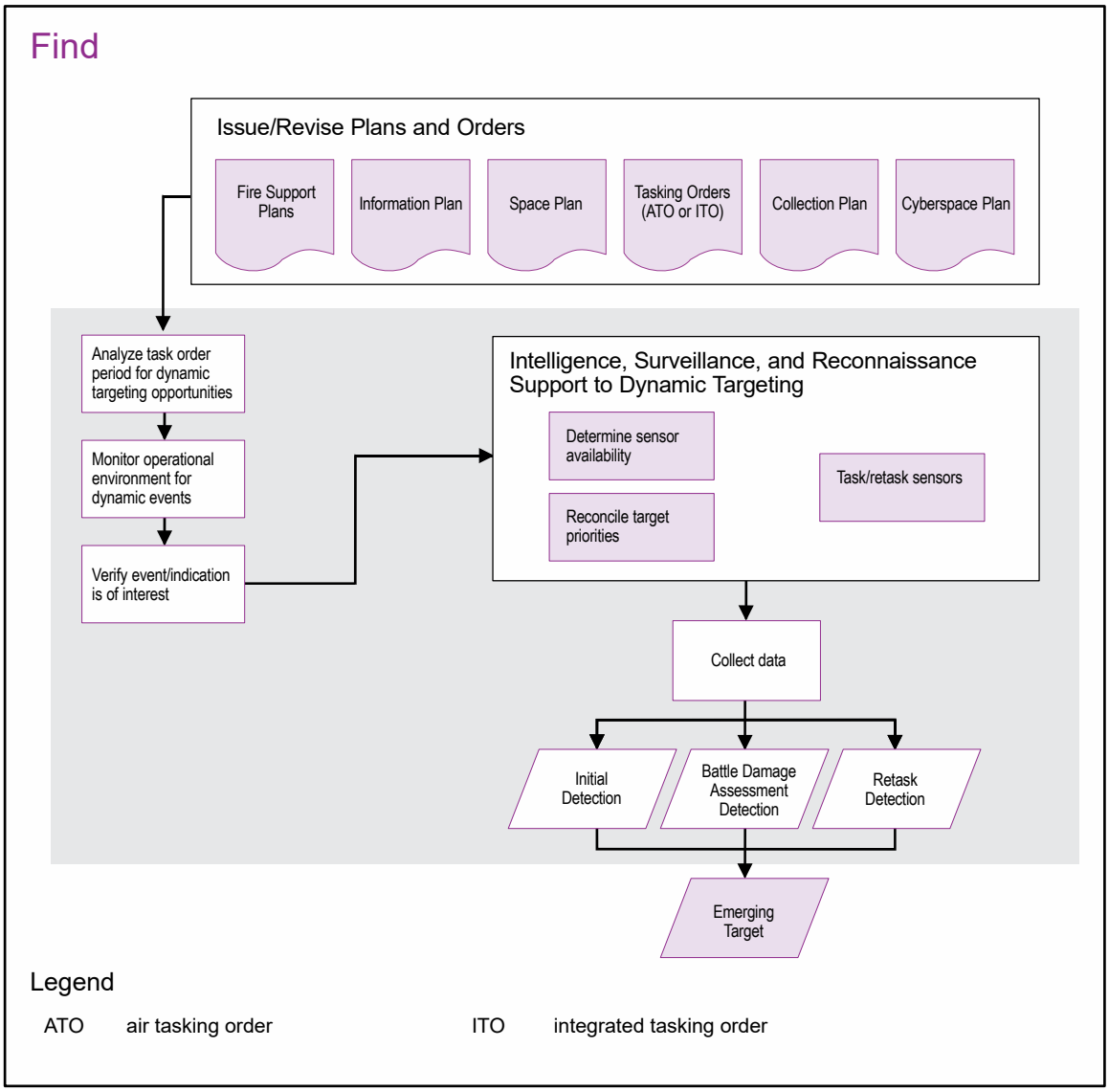

Figure III-9. Find

3. Collection plans based on JIPOE products.

(c) Targeteers use the term "emerging target" to describe a detection that meets sufficient criteria to be evaluated as a potential target. The criticality and time-sensitivity of an emerging target, and its probability of becoming a potential target, are unknown. Emerging targets normally require further intelligence collection or analysis to develop, confirm, and continue the process (see Figure III-10). During the find step, an emerging target is:

1. Designated a potential target requiring further action.

2. Designated a potential target not requiring immediate action and passed to the deliberate targeting process.

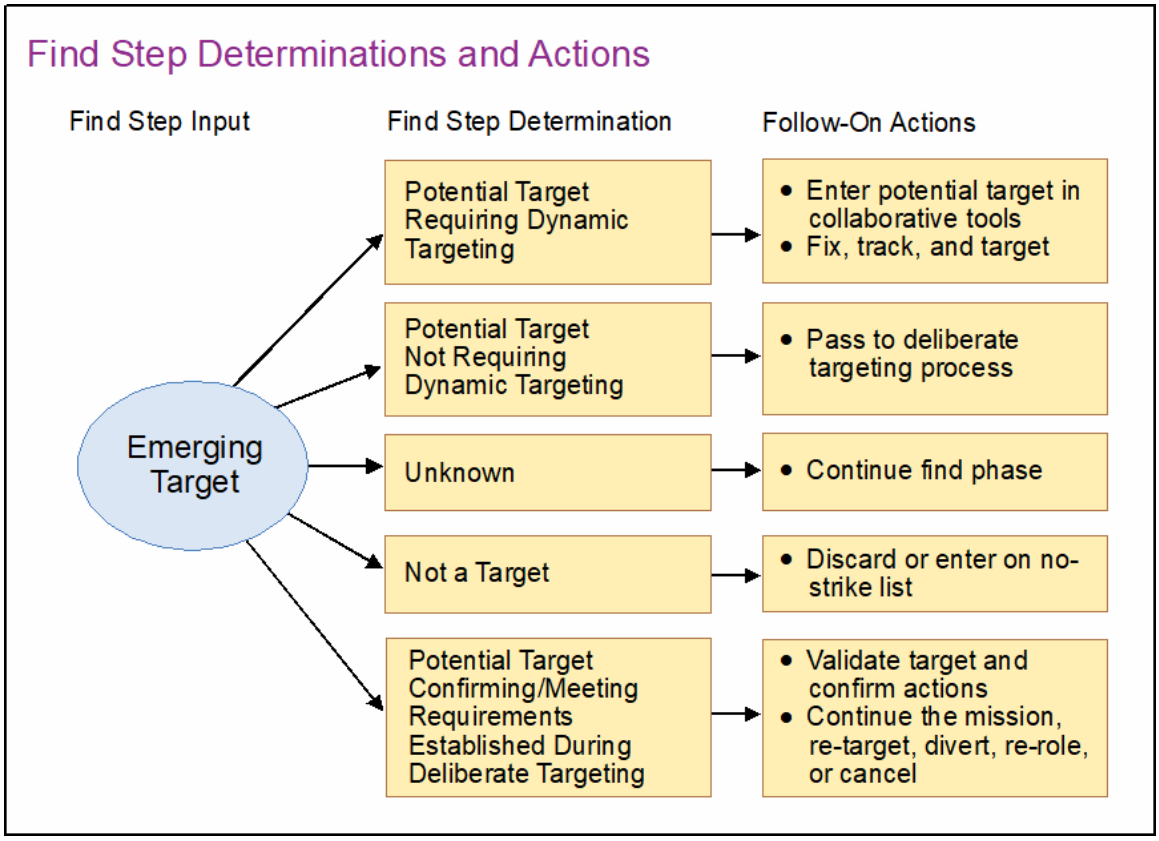

Figure III-10. Find Step Determinations and Actions

3. Continued to be examined or analyzed by sensors as a potential target (that is, continuing the find step).

4. Discarded or discounted completely as a target or entered on the NSL.

5. A validated target that meets legal requirements during the planning process. Target engagement in this ATO or ITO period may require that a mission be retargeted, diverted, or rerolled.

(d) If an emerging target is detected, identified, and determined to be a potential target by a system capable of engaging it, the find and fix steps may be completed nearly simultaneously without additional intelligence collection assets while the target and engage phases could be radically shortened. For example, aircraft systems that carry intelligence, surveillance, and reconnaissance assets with a weapons capability and target engagement authority may accomplish all six steps from a single platform.

(e) Output of the find step—potential targets detected and nominated for further development.

(2) **Step 2—Fix**

(a) The fix step begins after potential targets or on-call targets are detected. A fix is a position determined from terrestrial, electromagnetic, virtual, or astronomical data.

The fix step of this phase includes actions to determine the location of the potential target for dynamic targeting or as an on-call target for deliberate targeting (see Figure III-11). When a potential target is identified, relevant available sensors may be focused to confirm the target's identification and its precise location. The correlation and fusing of data confirms, identifies, and locates the target, at which point it may be characterized as a target for engagement in this ATO or ITO period (the dynamic targeting process) or engagement in a later ATO or ITO period (insertion into the deliberate targeting process). TSTs receive the highest priority in the dynamic targeting process.

(b) Inputs to the fix step:

1. Detection and reporting of targets requiring processing.

2. Sensor information on the target.

3. On-call targets for the deliberate targeting process.

4. Products from JIPOE.

(c) The determination or estimate of the target's window of vulnerability frames the urgency required for prosecution and affects the prioritization of available assets and risk assessment.

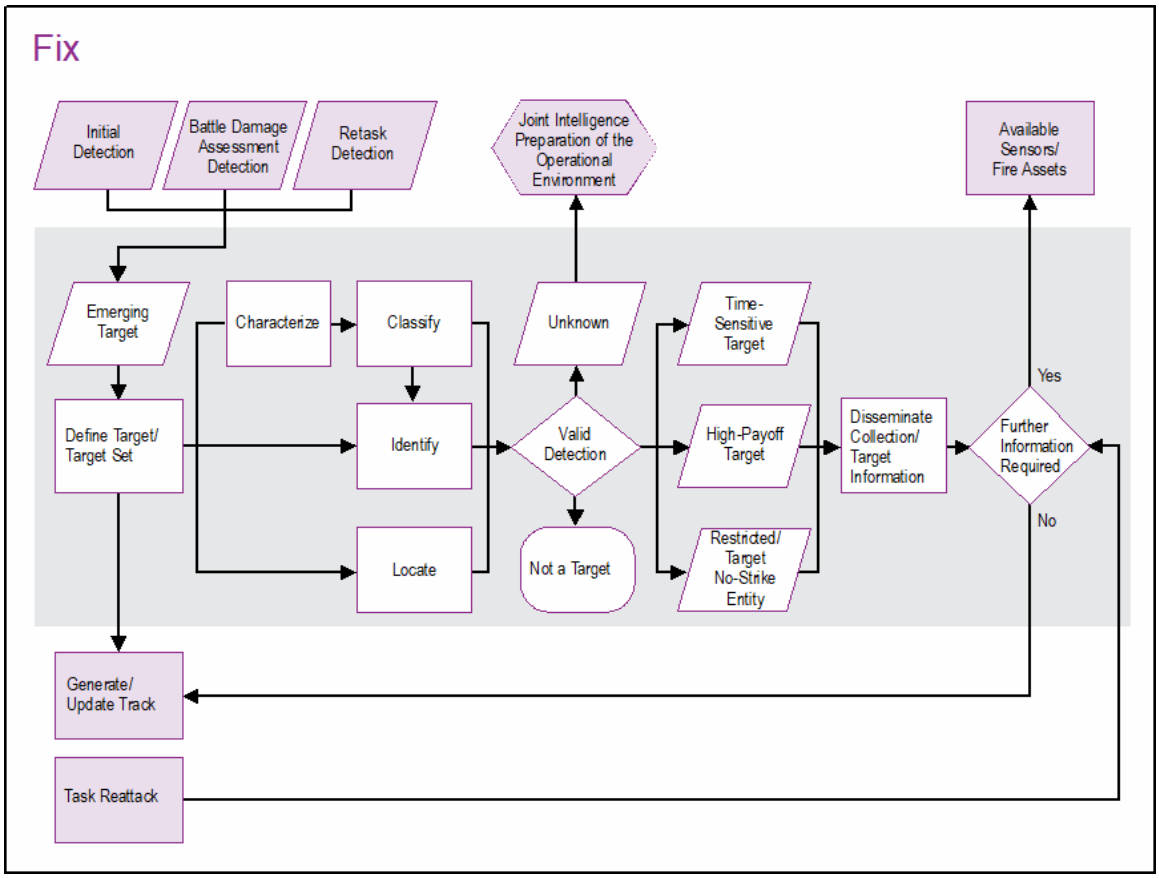

Figure III-11. Fix

(d) Output of the fix step:

1. Target PID and prioritization.

2. Target location accuracy refined for target engagement.

3. Determination or estimate of the target's window of vulnerability.

(3) **Step 3—Track**

(a) During this step, the target is observed, and its activity and movement are monitored (see Figure III-12). The step begins once a definite fix is obtained on the target and ends when the desired effect of an engagement is determined. Note that some emerging targets may require continuous tracking or custody upon initial detection. Multiple sensors should be coordinated to maintain situational awareness, continuity of the track, and custody of the target. The target's window(s) of vulnerability should be updated when warranted. TSTs generally receive the highest priority. If track continuity is lost, the find and fix steps will most likely have to be repeated.

(b) Input to the track step:

1. Positively identified target (meets PID criteria).

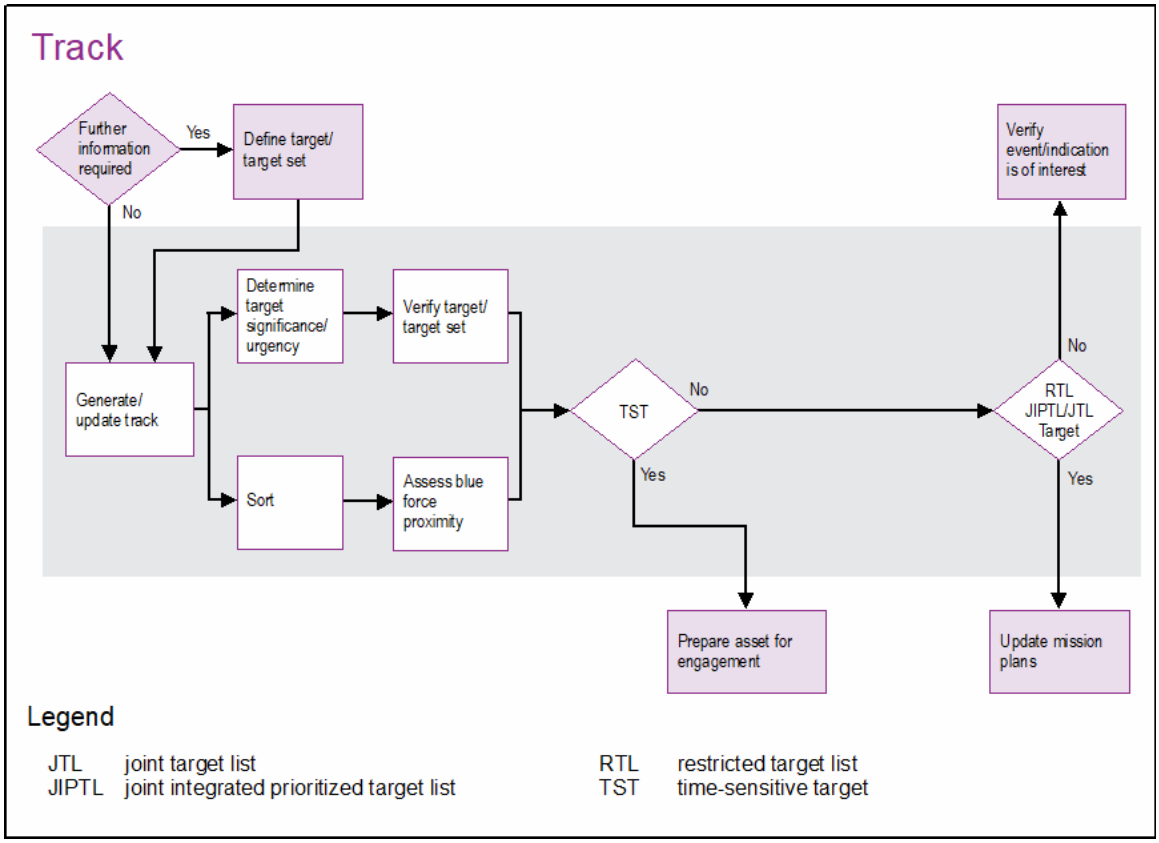

Figure III-12. Track

2. Target location and plot of movement (if applicable).

(c) Output of the track step:

1. Track continuity maintained by prioritized sensor(s).

2. Best available target coordinates.

3. Updates to target window of vulnerability.

4. Target custody.

5. CDE/CEE.

(4) **Step 4—Target**

(a) The target step begins with target validation. Operations personnel ensure all candidate targets meet the objectives and criteria outlined in the JFC's guidance. Target validation reviews its compliance with the law of war and ROE and ensures it is not otherwise restricted. The target phase matches available sensor assets with available joint force capabilities to create the desired effect(s). Restrictions are resolved; the actions against the target are coordinated, deconflicted, and assessed for possible risk. The target is weaponeered, engagement options are formulated, a recommendation is made, an option is selected to affect the target, and assessment requirements are submitted. Clearly, the target phase can be time-consuming due to the large number of requirements, yet many of these actions can be initiated and completed in parallel with previous phases to enable timely decisions (see Figure III-13).

(b) Input to the target step:

1. Threats to friendly forces.

2. Target PID status. Identified, characterized, located, and prioritized target with track maintained and ability to maintain custody for weapons with long fly-out times.

3. Selected weapon system options. Situational awareness on all available assets from all component HQs.

4. Risk assessment, including unintended or unpredictable effects.

5. Time and logistics required to move the engagement platform and supporting intelligence, surveillance, and reconnaissance within range of the target area.

6. Any adverse effect to current operations.

7. Collateral damage and collateral effect considerations.

8. Conflicts with NSL.

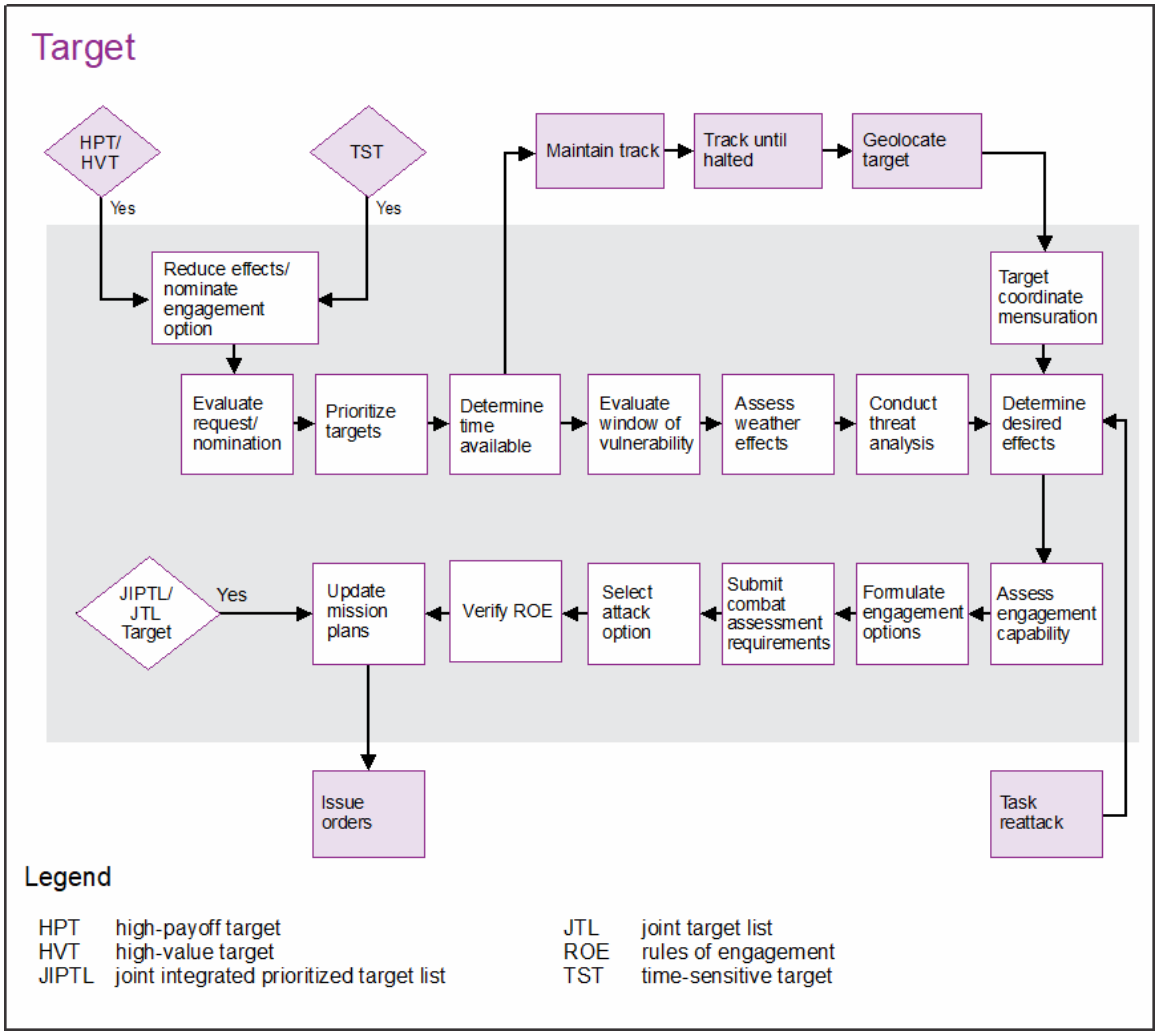

Figure III-13. Target

9. Conflicts with RTL.

10. Coordination with forces in proximity to target.

11. Consideration for additional restrictions, such as CDE/CEE guidance, WMD (consequences of execution), the law of war, ROE, OA boundaries, and FSCMs.

(c) Output of the target step:

1. The target is validated.

2. Target data information or intelligence products finalized in a format useable by the unit that engages it.

3. Asset deconfliction and target area clearance considerations (to include interagency and multinational partner deconfliction) are resolved.

4. Assessment collection requirements are submitted.

5. CDE is performed taking into consideration the potential harm to civilian population and infrastructure.

6. Collateral effects estimates for cyberspace; chemical, biological, or radiological targets; and environmental concerns are performed.

7. Target engagement approved (decision) IAW JFC and component commander guidance. Mission orders are completed, if necessary.

8. Continued custody of target.

(5) **Step 5—Engage**

(a) In this step, the engagement is ordered and transmitted to the appropriate joint force. Effective targeting requires engagement orders to be transmitted to, received by, and understood by those engaging the target. The engaged (or supported) component HQ and tactical unit is responsible for C2 and engagement of the target.

(b) As changes to the OE may affect an engagement decision, the CID and CDE/CEE processes are conducted prior to target engagement and continue throughout the engagement (see Figure III-14).

(c) Input to the engage step:

1. An approved mission or engagement order.

2. An approved target engagement option.

3. Target custody.

4. Maintained custody after engagement for BDA of moving targets.

(d) Output of the engage step:

1. Target engagement.

2. Initial BDA reporting.

(6) **Step 6—Assess**

(a) In this step, initial assessment of the action against the target is accomplished, considering its physical and functional status. For attacks in the physical environment, the assessment confirms impact of the weapon on the target with an initial estimate of the damage. If the desired effect is not created, a reattack may be necessary or a modification/restrike in a successive ATO or ITO period may be recommended. Further CA takes place in phase 6 of the JTC.

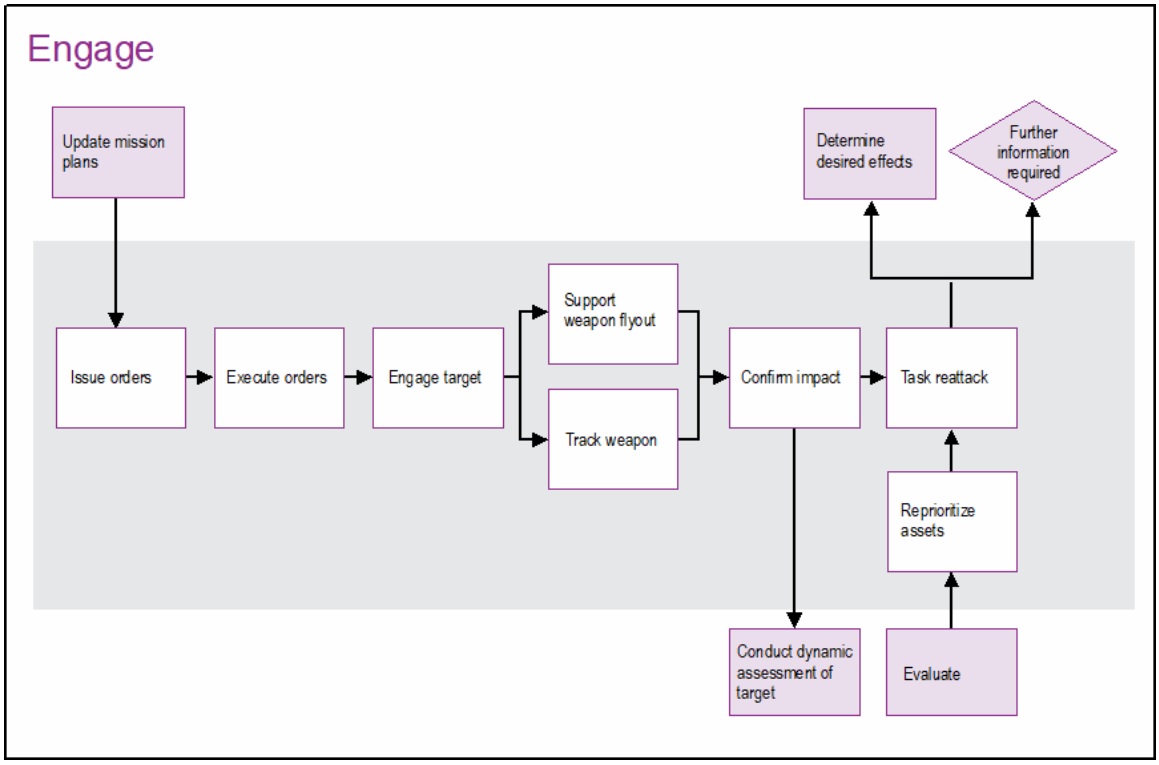

Figure III-14. Engage

(b) For both lethal and nonlethal weapons, this initial assessment is part of phase 1 of BDA. Reattack recommendations are generally not made using BDA phase 1 information. However, in cases of a confirmed miss, a reattack may be authorized based on target priority, weapon availability, the law of war, and applicable ROE. For the assessment of nonlethal effects, the intended target(s) may need to be assessed continuously over an unspecified period of time.

(c) Input to the assess step—target engagement.

(d) Output of the assess step:

1. BDA or mission reports (i.e., physical, functional, and target system assessments).

2. MEAs.

3. CDA and collateral effects assessment.

4. Reattack recommendations.

For more information on dynamic targeting, see ATP 3-60.1/MCRP 3-31.5/NTTP 3-60.1/AFTTP 3-2.3, Multi-Service Tactics, Techniques, and Procedures for Dynamic Targeting.

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CHAPTER IV
THE FUTURE OF JOINT TARGETING

1. Anticipating the Future Operational Environment

a. **Introduction.** In recent armed conflict, the joint force, along with allies and partners, successfully planned, executed, and assessed campaigns and operations against inferior adversaries. In these joint operations, the JFCs generally achieved domain dominance in the OE with domain centric joint targeting to generate the desired effects. However, the future of warfare continues to favor speed, agility, resiliency, and lethality. The joint force will need to conduct joint targeting seamlessly across all domains and the electromagnetic system with precision and scale to prevail.

b. **The Future OE.** The joint force is experiencing fundamental changes in the OE that are expanding it in ways that challenge the JFCs ability to achieve objectives. As part of these changes, potential adversaries are making rapid advancements that present complex challenges. JFCs cannot see, touch, or feel many of the threats, but joint forces will have to identify and target these capabilities and their enablers as their effects are real and dangerous. Some of the most difficult operational problems involve the adversary's ability to hold a multitude of targets at risk simultaneously across all domains. The character of adversary operations includes veiling malicious activities, maintaining plausible deniability and legitimacy, and undermining the United States in the information environment. The information advantage will reside with the opponent that quickly obtains vital information, accurately analyzes it, and securely disseminates it to the appropriate commanders.

(1) **Challenges.** Advanced adversary technology compounded by the tyranny of distance severely challenges the joint force's ability to command, control, and communicate. Through these challenges, the adversary minimizes joint force sanctuary options and freedom of maneuver in the OE.

(a) The joint force can expect its adversaries to conduct operations at an unprecedented speed due to the growth of artificial intelligence (AI). Our adversaries will use AI to generate targeting solutions, complete CAs, and provide decision-quality information to leaders. Generative AI capabilities may also be able to make predictive models of friendly facilities and assets based solely on easily observable features thereby informing and improving adversary weaponeering solutions at a speed unmatched by friendly processes. Our adversaries may acquire an operational speed advantage due to differing ethical and moral standards for inclusion of AI and autonomous weapons systems. The adversary can utilize their advanced targeting processes to employ new and advanced weapons from an enhanced standoff distance.

(b) Adversaries will leverage advanced technology and targeting processes to their advantage. Our adversaries have studied US joint warfighting and developed capabilities to counter technological advantages while advancing their capabilities. Additionally, adversaries will leverage non-traditional and commercial intelligence

collection platforms to perfect targeting data sets. For instance, an adversary can incorporate commercially available imagery and ubiquitous surveillance (e.g., traffic cameras, commercial security camera devices, social media geotagging) assets to obtain targeting data for joint force and coalition assets.

(c) Adversaries will challenge the joint force to conduct joint targeting effectively in all AOs.

(d) In the future OE, JFCs should anticipate negative portrayals of targeting effects on open source, world-wide information platforms, and adversary proxies to conduct attacks. Additionally, the adversaries and their proxies may use commercially available and open-source generative AI programs to augment factual targeting information with believable, yet false, information narratives that counter friendly objectives.

(2) **Response.** For success in future operations, JFCs adapt doctrine and leadership to leverage the increases in technology available. In the future, opponents will have additional means via technological advancements for targeting. This capability will increase opportunities and decrease response times between operations.

(a) Solving this problem and leveraging the future opportunities requires the joint force to develop interoperable systems, cross-domain solutions, and information sharing capabilities with allies, partners, other interagency members, industry, and academia. With these developments, JFCs can leverage future processes that enable joint targeting to perform optimally and consistently with less time constraints inside a traditional tasking cycle. Also, the joint force can immediately respond with non-materiel solutions for joint targeting enhancements. The non-materiel solutions include evolutionary adjustments in joint doctrine, AI capabilities, joint force training, and leadership development.

(b) JFCs will adjust the joint force structure, staffing, and equipment and succeed in joint targeting during JADO. Specifically, JFCs will need to refine the ability to track and manage targets across a JOA, an AOR, and multiple AORs from a joint targeting lens in the future joint warfighting.

(c) The joint force can continue ongoing efforts to develop and incorporate AI capabilities into DoD C2 and targeting processes to keep pace with adversary advancements.

(d) Training to address these challenges should be inherently joint, and when feasible, combined. The joint force must transform our AI and targeting training through expanded virtual learning, rigorous simulated environments, standardized joint courses, and continuing education to produce capable joint leaders. JFCs require SMEs trained to operate across all classification levels and control measures (e.g., sensitive compartmented information, special access programs, controlled access programs, alternative compensatory control measures) to ensure the full capabilities of the joint force are

available. AI literacy training and education is applicable to all phases of the joint targeting process. Joint targeting education schools can incorporate common standards and interoperable systems.

(e) Rehearsals, exercises, and echelon specific training can challenge joint leaders to prepare them for operations in the future OE. Targeting focused training and exercises will allow leaders to take risks, develop solutions, and identify areas for leadership development.

2. Joint Targeting Solutions in the Future Operational Environment

a. **Organization.** Commanders synchronize and prioritize targeting efforts to create all-domain effects, often between multiple CCMDs. Interwoven HQs staff will facilitate all-domain joint targeting across a JOA, an AOR, and multiple AORs. JFCs will make organizational changes for subsequent JADO as required for joint targeting and desired effects on the enemy.

b. **Interoperability Systems.** The joint force will need to foster greater interoperability amongst the Services' targeting, C2, and communications systems. For greater agility, JFCs will use C2 systems to seamlessly pass information to quickly prosecute targets. JFCs will use interoperable systems with redundant all-domain solutions to achieve their objectives in a contested or degraded environment.

(1) To ensure communication paths are available, the future joint force will need to use redundant lines of communication. The homeland is not a sanctuary, nor can JFCs always expect guaranteed communication from anywhere in the world. The joint force will need to work to secure and develop methods of communication that provide alternate and redundant communication across the globe. Further, JFCs can establish primary, alternate, contingency, and emergency and continuity of operations plans to use all available means of communication, recognizing that adversaries will have the ability to hold all domains at risk.

(2) JFCs can leverage these interoperable systems to enhance partnerships and coalition relationships with flexible C2 relationships. The joint force conducts intelligence operations with allies and partners to provide a deeper understanding of the adversary, facilitate target development across all domains, provide collection opportunities in denied areas, and facilitate dynamic targeting at scale. Partnerships and relationships increase the odds of succeeding in conflict and bolster the credibility of US objectives.

(3) Intelligence planners will use the increased interoperability across all domains and the EMS to support joint targeting in JADO. An all-domain intelligence estimate identifies the highest payoff targets with threat capabilities in space, cyberspace, the EMS, and information.

(4) The joint force of the future will require greater interoperability between C2 and communication systems to gain the information advantage in the targeting processes.

Combined Joint All-Domain Command and Control ties together forces and databases across land, air, sea, space, and cyberspace. To create greater agility, C2 information will integrate seamlessly in the mission-partner environment.

(5) Operations will require a common operational picture that the JFC integrates across all domains. The targeting process requires a comprehensive picture of the battlespace to inform leadership decisions. A high-fidelity common operational picture enhances seamless information sharing and reduce the risk for friendly fire.

(6) JFCs will leverage SMEs from all domains and at all classification levels to enable the integration of lethal and nonlethal effects inherent in JADO. Integration of SMEs in the joint targeting process will allow for synchronization of effects.

c. **ITO.** JFCs can exploit the increase in joint force interoperability to enhance the future of ITO execution. JFCs can expect to use advanced communications pathways, data architecture, and computer modeling to incorporate real-time sensor contributions to all available targeting solutions. JFCs will expand the ITO to include targeting effects across all domains and the EMS to inform the creation of domain centric tasking orders like the ATO. JFCs will use the ITO to organize various domain specific battle rhythms, preparation timelines, and maintain visibility of the highest payoff targets in the OE. JFCs can manage future interoperable systems that allow for seamless integration across services and domains to create an ITO that gains more synergistic cross domain effects increasing the joint force's lethality and survivability. The ITO has fewer constraints for operational tempo and provides event driven joint targeting processes to supplement traditional time driven joint targeting processes.

(1) The ITO introduces a philosophical shift in joint targeting for planners to prioritize event-driven processes over time-driven processes. For a joint task force, the ITO is the premier tasking order in hierarchy. The JFC synchronizes the effects from organic forces along with the effects from forces under tactical control, operational control, and organizations in support of the JADO mission. When effects originate from outside a particular JOA, the JFC above the joint task force level prioritizes efforts across other subordinate joint task force OAs. For future all-domain CONOPS, JFCs may not have to allocate forces for both deliberate and dynamic targeting. The two categories may become indistinguishable due to synthesis of all-domain targeting. The ITO tasks components from all domains and may not have the same time constraints that have been an enduring characteristic of the ATO. While JFCs cannot avoid or shrink all time constraints (e.g., aircraft maintenance, ordnance configuration, ship positioning, ground asset relocation, and preparation times for space/cyber effects), the time constraints do not dictate terms to all aspects of the JFC's intent as an all-domain ITO has inherent flexibility single domain processes cannot match. For instance, for the prosecution of time sensitive targets in an all-domain CONOPS, the JFC may not require nor desire air domain assets for execution to create the necessary effect.

(2) As the future situations demand, JFCs adjust their staff targeting battle rhythms to accommodate the ITO cycle and deviate from the traditional tasking order

cycles. Such deviations could include rapid assessments with follow on tasking to support the next ITO. Moreover, multiple JADO missions can likely occur in very rapid succession and expand upon the individual advantages from each JADO mission. Unlike the ATO, JFCs may not characterize the ITO by a calendar day to leverage cumulated advantages across multiple ITO cycles within a 24-hour period. JFCs may even adapt their joint targeting doctrine with emerging technologies such as AI support for multiple JFC targeting decisions at speeds faster than a traditional single ATO cycle execution.

(3) The ITO facilitates JADO success during contested or degraded conditions. Through the ITO, the JFC can task components to provide the architecture and facilitate sensor to shooter opportunities across multiple effects chains. The ITO can synchronize timing for functional commanders for domain and EMS availability for one JADO mission and provide adjustments for subsequent JADO missions.

(a) Even with degradation, the JFCs can use the ITO to prioritize one service component capabilities for one JADO mission and prioritize a separate component's capabilities for a subsequent mission due to known and anticipated future degradations. With the increase in tasking capability without time constraints, JFCs maximize the various scope, scale, and speed differences between JADO missions.

(b) JFCs and their staff can consider nascent architecture to augment mature network architecture in degraded conditions with tasking through the ITO.

(4) JFCs can maintain visibility on the highest payoff targets across all domains through the ITO cycle with an emphasis on space, cyberspace, the EMS, and the information environment. JFCs can quickly collaborate asset allocation and align individual domain sensors and shooters for redundancy in execution and propel near real time sensor contributions on the highest payoff targets. JFCs can prevail in JADO with degraded conditions with multiple sensors for target custody and multiple effects paths across all available domains.

(5) The ITO cycle may allow JFCs to challenge assumptions about the enemy with quicker assessments. The quicker assessments allow for faster accumulation of individual advantages and execution cycles. JFCs can use the quicker assessments with logistics informed options to fine-tune subsequent JADO missions.

(6) JFCs and their staff can incorporate the ITO as the primary tasking order to components, to request for detailed task execution from supporting commands, and to control effects within their JOA. The ITO does not replace the existing tasking orders (e.g., ATO, space tasking order, cyberspace tasking order, EMS execution cycle) but provides subordinate and supporting commands the supported commander's desired sequencing of effects in time and space.

d. **Integration of AI.** Advancements in AI will improve the targeting process and enable long range precision engagements. The planning, execution, and communication required for joint targeting necessitates SMEs and secure systems.

(1) Joint Intelligence planners will implement many of these solutions in the rapid transition from the MIDB to the Machine-assisted Analytic Rapid-repository System. Post transition, JFCs will rapidly track and engage cross-JOA and cross-AOR targets.

(2) All commanders are responsible for the priorities, effects, and timings within their OAs. AI enhances the commanders' responsibilities in the targeting process and improves the JFCs' abilities to make informed decisions. JFCs will need to harness the power of AI to enable the joint force to maintain its advantage by augmenting human analysis, decision making, and risk management. AI algorithms ingest and analyze intelligence products across multiple intelligence disciplines and platforms at a scale and speed far exceeding human capacity. However, the joint force must exercise caution to avoid over-reliance on AI output without human oversight.

(3) AI may quickly compare collected target data from multiple platforms to corroborate veracity of collected information. AI systems might analyze previously undetectable patterns in the adversary's movement and signatures to drive future intelligence collection efforts. As JFCs realize battlefield management benefits from AI's capability to evaluate the composition of adversary and friendly forces, optimize weaponeering and sensor management, and assign target custody, they will maximize the effectiveness of dynamic targeting. JFCs can expect a reduced sensor to shooter cycle with AI contributions and increase the tempo of operations. After engagements, AI systems can analyze the adversary response across multiple intelligence sources to provide rapid BDA and facilitate follow-on decisions for reattack.

(4) The joint force can leverage AI-empowered systems to seamlessly maneuver between communications channels and modalities when our adversaries degrade, deny, disrupt, or destroy our primary communication pathways. The joint force can evolve current "human in the loop" systems, in which a human initiates actions, into systems where AI initiates actions with human monitoring. The speed of future warfare, along with our adversaries' own advances in AI, may require the joint force to adopt completely autonomous systems. The delegation of AI delivery of autonomous effects poses serious moral and legal dilemmas and requires the establishment of unambiguous ethical guidelines to mitigate concerns with AI enhanced decisions.

APPENDIX A
LEGAL CONSIDERATIONS IN TARGETING

1. Introduction

Members of DoD comply with the law of war during all armed conflicts, however characterized. DoD members act consistent with the law of war's fundamental principles and rules included in Common Article 3 of the 1949 Geneva Conventions—the principles of military necessity, humanity, distinction, proportionality, and honor. International law considerations may directly affect all phases of the JTC. Targeteers and planners are required to understand and be able to apply the basic principles of international law as they relate to the joint targeting process. This appendix supports the JTC by providing a discussion of those aspects of international law that impact targeting decisions. In particular, this appendix discusses issues related to the basic principles of the law of war, ROE, general restrictions, precautions in attack, separation of military activities, special protections, national sovereignty, and environmental considerations. This appendix is not intended to be a substitute for legal counsel, which is obtained from the command's servicing SJA.

2. International Law and the Law of War

The law of war is that part of international law that regulates the conduct of armed hostilities. It encompasses all international law for the conduct of hostilities binding on the United States or its individual citizens, including treaties and international agreements to which the United States is a party, and applicable customary international law. The law of war rests on fundamental principles of military necessity, humanity, proportionality, distinction, and honor, all of which apply to targeting decisions.

The discussion in this appendix is not exhaustive. For detailed discussion, see JP 3-84, Legal Support, *and the* Department of Defense Law of War Manual.

3. Rules of Engagement

a. **ROE** directives delineate the circumstances and limitations under which US forces initiate, continue, or terminate combat engagements. ROE are the means by which the President, SecDef, and operational commanders regulate the use of armed force in the context of applicable political and military policy, as well as domestic and international law. ROE provides a framework that encompasses national policy goals, mission requirements, and the rule of law. All targeting decisions are made in light of the applicable ROE. Supplemental measures enable a commander to obtain or grant those additional authorities necessary to accomplish an assigned mission.

b. **Standing ROE.** In the absence of theater ROE drafted as part of a specific OPLAN, the standing ROE establish fundamental policies and procedures governing the actions taken by US commanders and their forces during military operations and contingencies outside the United States and its territories, as well as outside US territorial seas and airspace. The standing ROE also apply exclusively to air and maritime homeland

defense missions conducted within the United States and its territories, or territorial seas, unless otherwise directed by SecDef.

For further discussion on standing ROE, see CJCSI 3121.01, (U) Standing Rules of Engagement/Standing Rules for the Use of Force for US Forces.

4. General Restrictions on Targeting

a. **Lawful Military Attacks.** Military attacks are directed only at military objectives. In the law of war, the term "military objective" refers to any object that, by its nature, location, purpose, or use, effectively contributes to the war-fighting or war-sustaining capability of an opposing force and whose total or partial destruction, capture, or neutralization, under the circumstances ruling at that time, offers a definite military advantage.

(1) In competition and conflict, certain objects belonging to the armed forces of an adversary or enemy, such as military equipment (e.g., air defense systems, missile launching equipment and positions) and military bases (other than military medical facilities, prisoner of war [POW] camps, and civilian internee camps), are categorically recognized as "military objectives." For these objects, the definition of military objective is always considered to be met as a matter of law. Thus, these objects may be made the object of attack without specifically applying the two-part test discussed below. Objects that contain military targets are also considered military objectives (e.g., storage and production sites for military equipment or facilities in which combatants are sheltering or billeting).

(2) If the target is not categorically considered a military objective, a two-part test is applied. Both criteria apply before an object that is normally a civilian entity can be recharacterized as a military objective. This only applies to intentional attack and not to damage to civilian structures incidental to the lawful attack of military objective. The definition of military objective, insofar as such objects are concerned, may be divided into two criteria:

(a) That the entity makes an effective contribution to military action.

(b) Attacking, capturing, or neutralizing the entity, in the circumstances, offers a definite military advantage.

(3) The following paragraphs elaborate on the definition of military objective:

(a) **Nature.** The nature of an object refers to the type of object and may be understood to refer to structures that are, per se, military objectives. For example, military equipment and facilities, by their nature, make an effective contribution to military action. On the other hand, the term "nature" can also be understood to refer to structures that may be used for military purposes as discussed below.

(b) **Location.** The location of an object may provide an effective contribution to military action. For example, during military operations in urban areas, a

house or other structure that would ordinarily be a civilian object may be located such that it provides cover to enemy forces or would provide a vantage point from which attacks could be launched or directed. An area, such as a mountain pass or strait, may be a military objective.

(c) **Purpose or Use.** The **purpose** of an object means the intended or possible use of an object. For example, runways at a civilian airport could qualify as military objectives because they may be subject to immediate military use in the event runways at military air bases are not nearby or have been rendered unserviceable or inoperable. The **use** of an object refers to the object's present function. For example, using an otherwise civilian building to billet combatant forces may make the building a military objective. Similarly, using civilian equipment and facilities for military purposes, such as a C2 center or a communications station, would provide an effective contribution to the enemy's military action, thus qualifying the object as a proper military target.

(d) **Make an Effective Contribution to Military Action.** The object in question must make, or be intended to make, an effective contribution to military action; however, this contribution need not be direct or proximate. There does not have to be a geographical connection between effective contribution and military advantage. For example, an object might make an effective, but remote, contribution to the enemy's military action and therefore meet this aspect of the definition. Similarly, an object might be geographically distant from most of the fighting and still satisfy this criterion.

(e) **Military Action.** Military action has a broad meaning and is understood to mean the general prosecution of the war. It is not necessary that an object provide immediate tactical or operational gains or that the object make an effective contribution to a specific military operation. Rather, the object's effective contribution to the warfighting or war-sustaining capability of an opposing force is sufficient. Although terms such as "warfighting" and "war-sustaining" are not explicitly reflected in the treaty definitions of military objective, the United States has interpreted the military objective definition to include these concepts.

(f) **Circumstances Ruling at the Time.** The phrase, "in the circumstances ruling at the time," is an essential legal requirement. If, for example, enemy military forces have taken up a position in a building that otherwise would be regarded as a civilian object, such as a school, retail store, or museum, the building has become a military objective. The circumstances ruling at the time, that is, the military use of a building, permits its attack if attacking the building would offer a definite military advantage. If enemy military forces abandon the building, however, the change of circumstances may preclude its treatment as a military objective.

(g) **Definite.** This legal principle means a concrete and perceptible military advantage, rather than one that is merely hypothetical or speculative. When seeking to seize or destroy structures, a military commander may regard this requirement as met with a common military purpose to deny their use to the adversary or enemy. For example, the military advantage gained by attacking an individual bridge may not be seen immediately (especially if, at the time of the attack, there is no military traffic in the area). However,

military advantage can be established by the overall effort to isolate enemy military forces on the battlefield through the destruction of bridges.

b. **Protection of the Civilian Population and Civilian/Protected Objects.** Acts of terrorism during armed conflict are prohibited by the law of war. Civilian populations and civilian/protected structures may not be intentionally targeted, and the circumstances for possible exception are discussed in the following subparagraphs. The law of war generally gives civilians protection from attack during armed conflict. Civilians may lose this protection if they demonstrate hostile intent, engage in hostile acts, or directly participate in hostilities. Civilians who have taken a direct part in hostilities are not made the object of attack after they have permanently ceased their direct participation.

(1) Military commanders and other officials responsible for the safety of the civilian population take reasonable steps to separate the civilian population from military objectives and to protect civilians from the effects of combat. It may be appropriate to remove civilians and civilian structures from the vicinity of military objectives.

(2) The law of war requires that combatants wear uniforms, insignia, or other clearly identifiable markings.

(3) Under the law of war, safety, hospital, or neutral zones or localities may be created by agreement between the parties to a conflict. While the creation of such zones rarely occurs, if created, they should only be used for their intended purposes. Protected facilities such as hospitals and POW camps are also clearly marked through the use of distinctive and visible signs as required by the law of war. Signs indicating such protected civilian facilities and other structures should be communicated to the opposing parties to fully protect those structures from attack. Parties to a conflict should also take reasonable precautions to reduce the risk of harm to protected persons and objects from the effects of attacks. In particular, military commanders and other officials responsible for the safety of the civilian population take reasonable steps to separate the civilian population from military objectives and to protect the civilian population from the effects of combat.

(4) **Direct Participation in Hostilities.** However, the protection offered civilians carries a strict obligation on the part of civilians not to take direct part in hostilities. Civilians engaging in combat or otherwise taking a direct part in combat operations, singularly or as a group, lose their protection against direct attack. This could include insurgents, terrorists, and possibly civilians who provide material or operational support to the non-state combatant group. In some cases, consideration is given to civilians who might have been coerced or threatened to support a non-state group who are taking part in direct combat.

(5) Joint targeting during such situations especially invokes the principle of proportionality and the requirements for precautionary measures. The principle of proportionality requires that incidental injury or death to civilians or the collateral damage to civilian property anticipated to result from an attack not be excessive in relation to the concrete and direct military advantage anticipated to be gained by the attack. If civilians are being used as human shields, provided they are not taking a direct part in hostilities,

they are considered as civilians in determining whether a planned attack would be excessive in relation to the military advantage expected to be gained. Feasible precautions are taken to reduce the risk of harm to them. However, the enemy use of voluntary human shields may be considered as a factor in assessing the legality of an attack. Based on the facts and circumstances, the commander may determine that persons characterized as voluntary human shields are taking a direct part in hostilities. Consult the SJA when civilians are intermingled in the target or appear to be used as human shields.

For additional information on NSLs and CDE methodology, refer to CJCSI 3160.01, (U) No-strike and the Collateral Damage Estimation Methodology.

(6) **Requirement to Distinguish Between Military Targets and Civilian/Protected Objects.** Commanders and planners distinguish between military objectives and civilian and protected structures regardless of the legal status of the territory on or over which armed conflict occurs. Civilian and protected structures are those structures or locations that are not lawful military objectives for attack or lethal targeting actions. Exclusively, civilian and protected structures or locations may not be intentionally targeted for attack. Depending on the circumstances, when civilian structures or locations are collocated with, or are in proximity to, military targets, the responsible commander mitigates collateral damage by conducting a CDE/CEE analysis. If a protected object or an object on the NSL will be affected, commanders take appropriate steps to mitigate effects. A listed object on the NSL is removed from that list before a strike on the object can be lawfully authorized. **Under the principle of proportionality, the anticipated incidental loss of life and damage to civilian/protected property resulting from an attack cannot be excessive in relation to the concrete and direct military advantage expected to be gained in striking the military target.** Furthermore, the enemy's use of a civilian or protected object or location for military or combat purposes may result in the loss of protected status, rendering it subject to attack.

(7) **Result of Failure to Separate Military Activities.** When an enemy places military facilities in or near a populated area, this failure weakens effective protection of their nearby civilian population and could constitute a violation of the law of war if done to shield military objects from attack. When enemy persons engage in such behavior, commanders continue to discriminate in the conduct of attacks and take reasonable precautions to mitigate the risk of harm to the civilian population and to protected structures.

5. Precautions in Attack

a. When planning on conducting military operations, feasible precautions are taken to reduce the risk of harm to the civilian population and other protected persons and structures. Feasible precautions are those actions that are practicable, considering all circumstances in force at the time, including humanitarian and military considerations.

b. The extent of danger to the civilian population varies with such factors as the type of military target, terrain, weapons used, weather, and its proximity to civilians. Other factors that could pose threats to civilians include engagement techniques, nature of

conflict, commingling of civilian and military objects, and the existence of armed resistance. There are precautions that can be taken to mitigate risk to the civilian population that include:

(1) **Military Objectives.** Commanders and planners take reasonable measures to verify military objectives, and not civilian structures, are prosecuted. For example, a potential reasonable precaution could include establishing a pattern of life when possible. On the basis of available information, commanders and planners determine in good faith that a target is a military objective before authorizing an attack. Sound target intelligence enhances military effectiveness and target vetting.

(2) **Minimization of Civilian Casualties.** Despite taking feasible precautions, incidental harm may be inevitable during armed conflict. **Unless otherwise prohibited by ROE, and reasonable precautions are taken, attacks against military targets are permissible even if they might cause incidental injury or damage to civilians or civilian structures, so long as the incidental harm is not excessive in relation to the concrete and direct military advantage gained by engaging the target.** The input of the civil-military operations cell or civilian environment teams into the targeting process may help reduce destruction of essential civilian capabilities and minimize collateral damage or injury to the civilian population.

(a) **Any anticipated collateral damage to civilian structures or persons cannot be excessive in relation to the concrete and direct military advantage expected to be gained.** If the strike is directed against a legitimate military objective that also serves a legitimate civilian need (e.g., electrical power or telecommunications facilities), then this factor is carefully balanced against the military advantages when making a proportionality determination.

(b) Required precautionary measures are reinforced by traditional tenets of military doctrine, such as surprise, economy of force, and concentration of effort. Unless circumstances do not permit (e.g., where surprise is necessary for an attack), advance warning is given of an attack that may affect the civilian population. **There is no exception, however, to the duty to warn before certain medical units, vessels, or facilities forfeit their protection from being made the object of attack. These warnings are directed at those medical units committing an act helpful to the enemy, outside their humanitarian function, to make them cease the commission of such act. They are not subject to the caveat "unless circumstances do not permit" and warning is given in all cases.**

For more discussion of precautionary measures, see the law of war discussion on "due warning before cessation of protection" in the Department of Defense Law of War Manual.

(3) **Cancellation or Suspension of Attacks.** The attack is cancelled or suspended if target intelligence is found to be faulty before an attack is started or completed. If it becomes apparent that a target is no longer a lawful military objective, or the attack may be disproportionate, the attack is also suspended.

6. Special Protection

a. Directing attacks on civilians or civilian structures is prohibited. However, the incidental injury or death of civilian personnel or damage to civilian structures at or near a military target is not an automatic cause for redress. Special protections are discussed below.

b. **Wounded, Sick, Medical, and Religious Personnel; Hospitals and Other Medical Units; and Medical Transport.** Health service support assets exclusively assigned to medical duties, as a norm of customary international law IAW the Geneva Conventions, are not knowingly attacked, fired upon, or unnecessarily prevented from discharging their assigned functions. They shall at all times be respected and protected by all parties to the conflict. These assets can lose the specific protections entitled to them under the Geneva Conventions if used to engage in hostile acts not related to self-protection. Examples of assets afforded such protection may include:

(1) Fixed and mobile hospitals and medical establishments.

(2) Medical personnel.

(3) Ambulances and medical transport vehicles.

(4) Air ambulances and medical aircraft.

(5) Hospital ships.

(6) Wounded, sick, and shipwrecked persons, military or civilian.

(7) Chaplains.

c. **Distinctive Medical Emblems.** The key purpose of the distinctive emblems recognized under the Geneva Conventions, and its Additional Protocol of 2005, is to serve as the visible sign or expression of the protection and respect that is due to the personnel, units, and transports duly authorized to display them. The Red Cross, Red Crescent, and Red Crystal are the three internationally recognized distinctive emblems or symbols used to identify and proscribe the protected status of medical personnel and medical units, facilities, transports, and equipment. These emblems may be used to mark civilian and military medical personnel, ambulances and medical transport vehicles, and hospitals. The International Committee of the Red Cross and national Red Cross societies also use these symbols. Protection of these categories is required regardless of whether they are marked. Governments and combatants take the necessary steps, insofar as military considerations permit, to make the distinctive emblems visible to preclude the possibility of any hostile action.

(1) A fourth emblem, the Red Lion and Sun, was withdrawn in 1980 and is no longer in use. Some countries use other signs of identification, such as the Red Star of David by Israel. Although not recognized in the Geneva Conventions, or its Additional Protocol of

2005, when parties to the conflict are placed on notice that another party is using a unique emblem to mark its medical facilities, such facilities are given due respect as such.

(2) The Geneva Convention Relative to the Protection of Civilian Persons in Time of War, and its Additional Protocol of 2005, also authorizes the use of symbols to establish and mark zones for the wounded and sick. Safety zones for wounded, sick, aged, expectant mothers, children under 15, and mothers of children under 7 are to be marked with an oblique red band on a white background.

d. **Cultural Property** (including religious, cultural, scientific, and charitable buildings and monuments). All necessary measures should be taken to spare cultural property as much as possible, as long as buildings and monuments dedicated to religion, art, science, charitable purposes, or historical monuments or sites are not used for military purposes. Governments and combatants have a duty to identify such buildings and places with distinctive and visible signs. However, if these structures are used for military purposes, they may lose their protected status, become military objectives, and become, therefore, subject to attack. Lawful military targets located near cultural property are not immune from attack, but the principle of proportionality and the requirements for precautionary measures should be carefully applied. The Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict (1954) established a royal blue and white shield as the distinctive emblem for protected cultural property in war.

e. **POW Camps.** POWs may not be targeted, kept in a combat zone, or used to render an area immune from military operations. When military considerations permit, the letters "PW" or "PG" should be clearly visible from the air to identify POW camps. The use of POW camp markings for any other purpose is prohibited.

7. Environmental Considerations

a. The wanton destruction of the environment not required by military necessity is prohibited. Joint operations have the potential to adversely affect natural resources. Consistent with operational requirements, action should be taken to identify these resources and develop plans to prevent or mitigate adverse effects. These include natural resources in the OA such as endangered species habitats or other areas of important biodiversity. Attacks against installations containing structures that affect natural resources, including dams, dikes, and nuclear power facilities, are carefully considered for potentially catastrophic collateral damage.

b. **It is generally lawful under the laws of war to cause proportionate collateral damage to the environment during an attack on a legitimate military target.** The commander has an affirmative obligation to avoid unnecessary damage to the environment to the extent that it is practically consistent with mission accomplishment. To that end, and as far as military requirements dictate, methods and means of attack should be employed with due regard to the protection and preservation of the natural environment.

8. Role of the Staff Judge Advocate

Due to the complexity and extent of law of war and international law considerations involved in the JTC, the SJA or their representative should be immediately available to provide advice about law of war compliance during planning and execution of exercises and operations. Early involvement by the SJA improves the success of the targeting process and can prevent possible violations of international or domestic law.

For additional details, see Department of Defense Law of War Manual, *and JP 3-84,* Legal Support.

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APPENDIX B
TARGETING AUTOMATION

1. Overview

a. This appendix addresses current targeting automation capabilities necessary for planning. It details how targeting automation occurs within the JTC and concludes with a summary discussion of implications for targeting automation. Targeting automation is the use of artificial intelligence and machine learning systems, applications, and database technologies to accelerate the process of intelligence-driven development, databasing, and accessibility of information that systematically links objectives and guidance with required target information and assessments. Targeting automation is decision support technology. Targeting automation serves to support the joint force by leveraging available technological solutions to maximize efficiency and expediency in support of the joint targeting process. The automation process maximizes efficiency through the division of labor between tasks that can be accomplished by artificial intelligence/machine learning and trained analysts.

b. Integrating this automation into the joint targeting process has historically been a challenge. The definition of what is considered a target by automation systems and databases has evolved from only facilities to include individuals, equipment, organizations, and virtual target types. Similarly, requirements for targeting automation have been redefined by a need to accommodate a variety of weapon and capability options.

c. At the same time, computer science has rapidly advanced through multiple generations of operating systems and an exponential increase in computing capacity, storage, and network bandwidth. Moreover, the business processes of targeting have adapted to incorporate the lessons learned from numerous operations and exercises, as well as the evolution of targeting doctrine and the national use of military power.

d. The challenges of targeting automation are twofold—to ensure automation occurs in a standardized manner, enabling communications between targeting entities to remain clear, and to avoid the temptation to rely on automation for targeting expertise. Although automation provides speed of function, it is still incumbent on the targeteer to fully comprehend foundational targeting concepts.

2. Automating the Joint Targeting Process

a. The essence of targeting automation is its ability to assist a targeteer to develop, save, and disseminate the details of targeting decisions. Targeting automation underpins the orderly accumulation and flow of information that "connects the dots" of the joint targeting process. The joint targeting process is a series of phased activities that plan, execute, monitor, and assess the application of targeting methodologies to achieve military objectives. It is applied in numerous contexts ranging from contingency planning through tactical execution.

b. Intelligence, operations, and plans work together as a cohesive team in a collaborative environment to establish a common targeting capability. The J-2; J-3; J-5; force structure, resource, and assessment directorate of a joint staff; and interagency and multinational communities each present unique challenges to establishing a common targeting capability that can serve the needs of all these communities and their "customers." Currently, many parts of the targeting process are automated, although no one single tool automates the entire process. The process of targeting occurs on many levels and in many locations simultaneously, yet no single interoperable solution has emerged or been established. As appropriate for classification limitations and the protection of sources and methods, targeting automation should serve a diverse and distributed client base while conducting efficient bidirectional data flow between intelligence centers, classified computer systems, a wide variety of targeting tools, and multinational partners, all while supporting the exchange and interoperability of critical data. The targeting intelligence automation architecture should also be able to accommodate producers and consumers of information on low bandwidth, message-based environments.

c. **MIDB/Machine-assisted Analytic Rapid-repository System.** The MIDB Data Services Environment (and the Machine-assisted Rapid-repository System which is currently replacing it) is DoD's authoritative, all-source repository of worldwide general military and target intelligence. MIDB information is maintained in support of the CCMDs, Services, combat support agencies, United States Government departments and agencies, and international organizations. The MIDB's architecture consists of a group of component databases that continuously replicate worldwide between hundreds of nodes on a variety of networks and between different security levels. This architecture provides the infrastructure for data exchange between intelligence and operational consumers from the national to tactical levels. MIDB provides a baseline source of intelligence on installations, facilities, military forces, population concentrations, C2 structures, and equipment, in addition to target details. Because of MIDB's replication architecture and business rules designed to protect data integrity, MIDB is the national database for all target lists, NSLs, and textual data in ETFs.

d. **Joint Targeting Toolbox.** The Joint Targeting Toolbox is a suite of software modules that support the targeting cycle from objectives and guidance to CA through management of critical intelligence data. It provides the functionality to perform target development and analysis, weaponeering, and the nomination of relevant targets for attack.

3. Implications for Targeting Automation

a. Authoritative, national target intelligence data is stored in MIDB. The entire joint targeting enterprise should seamlessly share well-understood, standardized representations of target intelligence and data and not rely on local databases. Using national databases as a foundation, targeteers also rely on automation tools and processes to facilitate rapid exchange of target intelligence and data among various echelons and organizations. Automation assists in transforming target information into a variety of forms to support warfighters, building cases for target engagement, or collecting information on observed damage. To provide value, targeting automation tools and processes should be responsive

to multiple organizations and aggressive timelines, as well as provide accurate and consistently repeatable presentations of data.

b. Certain processes in the joint targeting process are not conducive to automation, especially those that involve rapidly changing or perishable data and information. For example, while machine-to-machine processing can identify HPTs to end-users based on selected criteria, certain target systems may be dual-use. Taking action against these target systems might create the desired operational effects in the near term, but it may not satisfy objectives supporting the overall plan. This requires targeteers and analysts to ensure risk-based targeting decisions are made with accurate and timely information. Because of this, care should be taken to ensure subject and functional matter experts are consulted on the suitability of automated data and information in the joint targeting process.

c. Automation is a critical tool that enables targeteers to be more accurate and efficient in all phases of the joint targeting process with reliable target intelligence, but automation is not a replacement for human thinking or proactive communications. Regardless of the automated tool used, commanders are responsible for the priorities, effects, and timing within their OA and the adherence to the law of war and relevant ROE. Standalone systems create a break in the flow of intelligence or targeting data, sub-optimize the enterprise, and waste resources. Ideally, targeting automation should facilitate real-time, virtual, collaborative, and multilayered security analysis and planning. The key elements to targeting automation are **common target data standards** and **data interoperability.** These elements, in turn, enhance **information sharing** while providing for the **worldwide replication of target information** between all users, to include multinational partners.

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APPENDIX C
COMBAT ASSESSMENT

1. The Purpose of Assessment

a. **Assessment.** Operational assessments provide perspective, insight, and the opportunity to correct, adapt, and refine planning and execution to make military operations more effective. Commanders and staffs derive relevant assessment measures during the planning process and then evaluate and reevaluate them continuously throughout preparation and execution. They consider assessment measures during mission analysis, refine these measures in the initial planning guidance and in commander and staff's estimates, wargame the measures during COA development, and include MOEs and MOPs in the approved plan or order.

b. **CA.** CA is a continuous process that measures the overall effectiveness of force employment during military operations. CA is a subcomponent of operation assessment and is a command responsibility. It supports the commander's decisions within the JTC and contributes to the overall campaign or operation assessment process. Notably, some joint operations (e.g., defense support of civil authorities, foreign humanitarian assistance) require no targeting. In these cases, assessment is still required, but CA is not.

2. Assessment and Targeting

a. **CA** is focused on determining the results of engaging a target and, thus, is an important component of joint fires and the joint targeting process. The four elements of CA are the effect on the target (BDA), the performance of the capability (MEA), the effect on the surrounding environment (CDA), and, when necessary, a reattack recommendation. To conduct CA, commanders and their staffs should fully understand the linkages between the targets and the commander's objectives, guidance, and desired operational effects. Most personnel conducting CA require specialized training.

(1) **BDA.** BDA is an estimate of target damage or effect(s) resulting from the application of lethal and nonlethal capabilities. Typically, BDA is conducted and reported as a three-step analytical process—physical damage and change assessments (PDAs), functional damage and change assessments (FDAs), and target system damage assessments (TSDAs). The BDA process proceeds from a micro-level examination of the damage or effect inflicted on a specific element, to ultimately arriving at macro-level conclusions regarding the functional effects created in the target system. BDA should be treated as an integral component of the joint targeting process and not conducted as a separate, post-attack activity. BDA planning should occur early in the JTC to improve effectiveness and timeliness of BDA. Effective BDA requires a coordinated and integrated effort between joint force intelligence and operations functions. The BDA reporting process consists of phase 1 BDA (PDA), phase 2 BDA (FDA), and phase 3 BDA (TSDA).

(a) **BDA Phase 1, PDA**

1. PDA is an estimate of the quantitative extent of physical damage to an element based on observed or interpreted damage. It also measures change to the target resulting from fires that do not create physical damage, such as countering threat networks, counter threat finance, or information activities. The capabilities that drive change assessments may not result in immediate or easily recognizable effects. This post-engagement target analysis should be a coordinated effort among combat units, component commands, the subordinate joint force, the CCMD, primary theater BDA cell, national agencies, supporting commands, and the JIOC.

2. PDA is conducted against one or more specific aimpoints, usually containing a critical target element. Destruction of an entire building may not be required if the stated objective is to destroy a specific portion of the building based on the function (critical target element) conducted within that section of the building. Assessments of no damage or destroyed are easily defined and understandable. The difficulty comes in subjective judgment specifying the level of damage between these two extremes. Intermediate damage definitions are dependent on target type and the ease of assessing damage. For example, in buildings, light, moderate, and severe damage is determined by the percent of the target area (building) damaged. In contrast, when assessing armored vehicles, only the damaged category is used. Likewise, runways have more specific categories that include cratered, cut, and interdicted. In assessing physical damage, consider whether the enemy may have used camouflage, concealment, and deception techniques to either minimize or amplify the apparent extent of physical damage/change, obviously distorting the assessment.

3. A confidence level is assigned to the PDA. The three terms used to identify confidence are confirmed, probable, and possible.

Detailed information of these confidence levels, along with physical damage and change definitions for specific elements, may be found in the CJCSI 3162.02, Methodology for Combat Assessment.

4. Initial reports are often based on single-source visual observations of the target. Further analysis continues with all-source reporting. Inputs can come from aircrew mission reports and debriefs and imagery, surveillance, reconnaissance, video, site exploitation, forward observers, and other intelligence sources. Both the units controlling the weapons system, as well as various intelligence collection units responsible for post-attack analysis, develop BDA reports. The command-designated BDA cell is responsible for collating reports and making the final assessment.

(b) **BDA Phase 2, FDA**

1. FDA is an estimate of the degradation or destruction of the capability of a target to perform its intended mission. It is inferred from the assessed physical damage and all-source intelligence information and includes an estimation of the time required for recuperation or replacement of the target's function. BDA analysts compare the pre- and post-engagement target status of the target (using available imagery and other sources) to determine if the desired effect was created.

2. This assessment reviews all related PDAs and applies this information to the target's function. Two key steps from target development are needed to support FDA development—identifying and establishing critical target elements and their interconnectivity and quantifying the target's normal level of operation.

3. An estimate of the recuperation time required for the enemy to repair or reconstitute should always be part of a BDA report. This time (expressed in hours or days) is an estimate based upon type, degree, and location of the physical damage/change. Factors used to calculate recuperation times include the availability of spares, backup or alternate replacement functions, operational tempo, expected duration of hostilities, and the enemy's determination to repair or replace. This requires the integration of theater and national source information. The theater JIOC has access to these sources and provides significant support. Signals intelligence, GEOINT, and measurement and signals intelligence sources are also useful.

For more information on resiliency, see JP 3-25, Joint Countering Threat Networks.

4. Developing appropriate indicators and collection plans ahead of time is crucial to timely assessments, especially if the damage/change cannot be directly observed. These indicators enable analysts to rapidly identify the critical target elements, what sources are capable of collecting the required information, best collection time, what specific change in activity the sensor should collect, and how this change in activity determines the target's functional status. This facilitates BDA collection planning since optimal collection times are best determined well in advance. Examples of such indicators and collections plans may be found in various DoD agency products, such as the JWAC's functional damage assessment guides for electric power industry; lines of communications; petroleum, oils, and lubricants industry; and telecommunications networks.

(c) **BDA Phase 3, TSDA**

1. TSDA encompasses all-source assessments of the change and remaining target system functional capabilities and capacities relative to the targeting objectives after military operations begin. TSDA products, as well as tools modeling target system functionality, provide a baseline for evaluating the overall results of targeting operations on threat target systems. Base this evaluation on the aggregate of FDAs of individual targets within the system and on changes resulting from second- and third-order effects.

2. SMEs compile the functional damage assessments of the individual targets within a system and apply them to the current system analysis or enemy order of battle. Although different weapons are involved, the process described applies to BDA for all target engagements.

(d) **Federated BDA.** Federated BDA allows the supported JFC to establish preplanned partnerships to share responsibilities and leverage appropriate expertise from outside the theater. The JFC may request federated BDA support from multiple commands and agencies through the JS J-2. Upon approval, each agency in the partnership should be

assigned specific targets, either by individual target sets/categories or by geographic region. The JS J-2 should work with the requesting command to form the best federated partnership based on available resources and capabilities.

(e) **BDA Reports.** The results of the BDA process are provided in three phases of BDA reports:

1. Phase 1 reporting contains an initial physical damage or other effect assessment of hit or miss based usually upon single-source data. Reporting timeline—immediately post-mission execution or mission report submission, as directed by standard operating procedures. Reporting format—structured free text, United States message text format, or voice report during system connectivity problems.

2. Phase 2 reporting builds upon the phase 1 initial report and is a fused, all-source product addressing a more detailed description of physical damage, an assessment of the functional damage, inputs to TDSA (phase 3), and any applicable MEA comments. When appropriate, a reattack recommendation is also included. Reporting timeline—once intelligence has been able to conduct a functional assessment of the target or sooner, as dictated by standard operating procedures. Reporting format—United States message text format.

3. Phase 3 TSDA products describe the functional damage/effect assessment at the target system level. Base this report on all-source reporting and a detailed review of available, system-relevant phase 1 and phase 2 BDAs. This report combines the analyses from the phases 1 and 2 reports, plus all-source information. Reporting timeline—daily. Reporting format—structured free text (if sent via United States message text format, use the general free text narrative format).

(f) BDA requires more than post-strike imagery. Although in some situations a single data source may be adequate to perform BDA, in most cases, the use of all-source intelligence is critical to providing accurate BDA. The following sources assist in conducting comprehensive BDA:

1. GEOINT, including tactical or unmanned aerial vehicle platforms.

2. In-flight reports and mission reports containing executed ATO, ITO, and pilot BDA.

3. Aircraft/weapon system video or data.

4. Space-based intelligence, surveillance, and reconnaissance systems.

5. Signals intelligence.

6. Human intelligence, to include direct reporting by forward air/ground observers, tactical air control parties, and special operations forces.

7. Measurement and signals intelligence.

8. Open-source intelligence.

9. Mission reports for surface-to-surface fires.

10. Indigo reports for cruise missiles.

11. Technical intelligence.

12. Counterintelligence.

13. Intelligence collected from cyberspace exploitation.

(2) **CDA.** The JFC has a responsibility to account for any unintentional or incidental injury or damage to civilians, noncombatants, or their property. Engagements that result in collateral damage negatively affect the ability of the joint force to achieve the commander's objectives. CDA compares the CDE conducted in phase 3 (capabilities analysis) of the JTC with the observed, inferred, or reported damage. If analysts anticipated collateral damage, CDAs may inform and refine CDEs. If collateral damage occurs for other reasons, this assessment process is critical for the joint force to determine the cause, or causes, of the collateral damage.

(3) **MEA.** MEA evaluates the military force applied in terms of the weapons system and munitions effectiveness to determine and recommend any required changes to the methodology, tactics, weapon system, munitions, fuzing, and weapon delivery parameters to increase force effectiveness. MEA compares the actual effectiveness of the engagement to the anticipated effectiveness calculated during JTC phase 3 (capabilities analysis). MEA is conducted concurrently and interactively with BDA. MEA is primarily the responsibility of the J-3 and JFE with required inputs and coordination from the IC.

(4) **Future Targeting and Reattack Recommendations.** Future target nominations and reattack recommendations merge the picture of what was done (e.g., BDA) with how it was done (e.g., MEA) and compares the result with predetermined MOEs that were developed at the start of the JTC. The purposes of this phase in the process are to determine degree of success in achieving objectives and to formulate any required follow-up actions or to indicate readiness to move on to new tasks toward achieving the overall JFC objectives.

For additional information on the BDA process, see DIA-13-1308-255, Critical Elements Handbook, *and CJCSI 3162.02,* Methodology for Combat Assessment.

b. **Estimated Assessments.** The current CA process relies on phased BDA analysis to assess combat effectiveness. If no data is available for a target, the assessment is usually left blank or unknown. Based on the BDA status and the commander's guidance, analysts may try to provide a prediction of the estimated damage for both individual targets and target systems based on the initial predictions. These serve as placeholders for the probabilities of success, a process facilitated by the precision and reliability of many modern weapon systems. As the operation is executed, the predictions for individual targets are updated continually with the latest available information on the actions taken.

Such updates might be final, definitive BDA, or they may be information which, while not definitive, helps refine the estimate (e.g., confirmation that a joint direct attack munitions successfully dropped through the clouds on the programmed coordinates). Combining the latest information on individual elements means an assessment cell can provide an estimate of success refined with the latest available information. As more definitive data becomes available, the assessment becomes less of an estimate and more of an actual assessment of what effects were created to support achievement of objectives.

3. Assessment Metrics and Measurements

a. **Assessment Metrics.** The staff should develop metrics to determine if operations are properly linked to the JFC's objectives and the larger hierarchy of operational and national objectives. These metrics evaluate the effects created to support achievement of objectives during joint operations. During target development, personnel should develop metrics for each specific target. These metrics should indicate the targeting objectives and desired effects(s) on the target as a result of action(s) against it. For example, the destruction of Critical Node 1 will degrade Target A functionality by at least 50 percent. These metrics may be refined during the weaponeering process, as the choice of weapons, fuses, and delivery tactics may further influence effects. These metrics should be posted in an ETF or provided in another format to the assessment team prior to post-strike assessment, so they can measure the intended performance against the target. Metrics can either be objective (using sensors or personnel to directly observe damage inflicted) or subjective (using indirect means to ascertain results), depending on the metric applied to either the objective or task. Both qualitative and quantitative metrics should be used to avoid unsound or distorted results. Metrics can either be inductive (directly observing the OE and building situational awareness cumulatively) or deductive (extrapolated from what was previously known of the threat and OE). Success is measured by indications that the effects created are influencing enemy, friendly, or neutral activity in desired ways among various target systems.

b. **Measurement Types.** The assessment process uses MOPs and MOEs to evaluate progress toward task accomplishment, effects creation, and objective achievement. Well-devised measures can help the commanders and staffs understand the causal relationship between specific tasks and desired operational effects.

For more information on MOEs and MOPs, see JP 5-0, Joint Planning.

4. Post-Combat Assessment

a. The JTC does not end when combat operations cease. Following combat operations, the commander should collect all available information that feeds both BDA and MEA analysis. This data collection effort is essential to:

(1) Evaluate the full extent of target physical and functional damage/exchange.

(2) Determine the true effectiveness of engagements.

(3) Critique and improve the assessment analysis and reporting process.

b. Although there are many different types of data to collect for follow-on analyses, generally they can be grouped into operations-related data, intelligence-related data, and MEA exploitation. Collection of operations-related or mission-specific data includes all executed mission-type orders (to include all executed ATOs); mission reports; and intelligence, surveillance, and reconnaissance data. Information to collect includes both national and tactical intelligence gathered during the operations, as well as continued post-mission damage assessment and analysis of reconstruction activities.

c. The optimal method to analyze munitions effects is to deploy MEA exploitation teams (engineers, tacticians, and intelligence analysts) to conduct on-site analyses of damage from the ground-level perspective. The objective of these operations is to bridge the knowledge gap existing between the levels of damage/change observed through sensors and the actual physical and functional damage/change accomplished to the targets and target systems. Due to the perishable nature of critical data at targeted sites, planning for ground truth exploitation needs to be fully integrated into OPLANs for immediate execution following combat operations. If feasible, initial exploitation can be accomplished during operations by ground forces.

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APPENDIX D
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APPENDIX E
REFERENCES

The development of JP 3-60 is based upon the following primary sources.

1. General

a. DIA-13-1308-255, *Critical Elements Handbook.*

b. *Department of Defense Law of War Manual.*

c. DoD Instruction 3000.17, *Civilian Harm Mitigation and Response*.

d. *Civilian Harm Mitigation and Response Action Plan (CHRM-AP).*

e. Geneva Conventions.

2. Chairman of the Joint Chiefs of Staff Publications

a. CJCSI 3121.01B, *(U) Standing Rules of Engagement/Standing Rules for the Use of Force for US Forces.*

b. CJCSI 3122.06F, *(U) Sensitive Target Approval and Review (STAR) Process.*

c. CJCSI 3160.01D, *(U) No-Strike and the Collateral Damage Estimation Methodology.*

d. CJCSI 3162.02A, *Methodology for Combat Assessment.*

e. CJCSI 3370.01D, *(U) Target Development Standards.*

f. CJCSI 3505.01E, *Target Coordinate Mensuration Certification and Program Accreditation.*

g. JP 1, Volume 1, *Joint Warfighting.*

h. JP 2-0, *Joint Intelligence.*

i. JP 3-0, *Joint Campaigns and Operations.*

j. JP 3-01, *Countering Air and Missile Threats.*

k. JP 3-03, *Joint Interdiction.*

l. JP 3-04, *Information in Joint Operations.*

m. JP 3-05, *Joint Doctrine for Special Operations.*

n. JP 3-09, *Joint Fire Support.*

o. JP 3-09.3, *Close Air Support.*

p. JP 3-12, *Joint Cyberspace Operations.*

q. JP 3-14, *Joint Space Operations.*

r. JP 3-25, *Joint Countering Threat Networks.*

s. JP 3-30, *Joint Air Operations.*

t. JP 3-31, *Joint Land Operations.*

u. JP 3-32, *Joint Maritime Operations.*

v. JP 3-33, *Joint Force Headquarters.*

w. JP 3-84, *Legal Support.*

x. JP 3-85, *Joint Electromagnetic Spectrum Operations.*

y. JP 5-0, *Joint Planning.*

z. JP 6-0, *Joint Communications.*

aa. *Joint Guide for Joint Intelligence Preparation of the Operational Environment.*

3. Multi-Service Publications

a. ATP 3-60.1/MCRP 3-31.5/NTTP 3-60.1/AFTTP 3-2.3, *Multi-Service Tactics, Techniques, and Procedures for Dynamic Targeting.*

b. ATP 3-52.2/MCRP 3-20.1F/NTTP 3-56.2/AFTTP 3-2.17, *Multi-Service Tactics, Techniques, and Procedures for the Theater Air-Ground System.*

4. Service Publications

a. Air Force Doctrine Publication 3-60, *Targeting.*

b. Air Force Doctrine Publication 3-70, *Strategic Attack.*

c. Field Manual 3-60, *Army Targeting*.

d. Marine Corps Warfighting Publication 3-31, *Marine Air-Ground Task Force Fires.*

e. NTTP 3-03.4, *Naval Strike and Air Warfare.*

f. NTTP 3-60.2, *Maritime Dynamic Targeting.*

g. Navy Warfare Publication 3-09, *Navy Fire Support.*

APPENDIX F
ADMINISTRATIVE INSTRUCTIONS

1. User Comments

Users in the field are highly encouraged to submit comments on this publication using the Joint Doctrine Feedback Form located at: https://jdeis.js.mil/jdeis/jel/jp_feedback_form.pdf and e-mail it to: js.pentagon.j7.mbx.jedd-support@mail.mil. These comments should address content (accuracy, usefulness, consistency, and organization), writing, and appearance.

2. Authorship

The lead agent for this publication is the United States Air Force. The Joint Staff doctrine sponsor for this publication is the Joint Staff J-3 [Operations]. The Joint Staff J-7, Joint Targeting School, and the Joint Staff J-2, Joint Targeting Directorate, are the technical review authorities.

3. Supersession

This publication supersedes JP 3-60, *Joint Targeting,* 28 September 2018.

4. Change Recommendations

a. To provide recommendations for urgent and/or routine changes to this publication, please complete the Joint Doctrine Feedback Form located at: https://jdeis.js.mil/jdeis/jel/jp_feedback_form.pdf and e-mail it to: js.pentagon.j7.mbx.jedd-support@mail.mil.

b. When a Joint Staff directorate submits a proposal to the CJCS that would change source document information reflected in this publication, that directorate will include a proposed change to this publication as an enclosure to its proposal. The Services and other organizations are requested to notify the Joint Staff J-7 when changes to source documents reflected in this publication are initiated.

5. Lessons Learned

The Joint Lessons Learned Program (JLLP) primary objective is to enhance joint force readiness and effectiveness by contributing to improvements in doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy. The Joint Lessons Learned Information System (JLLIS) is the DoD system of record for lessons learned and facilitates the collection, tracking, management, sharing, collaborative resolution, and dissemination of lessons learned to improve the development and readiness of the joint force. The JLLP integrates with joint doctrine through the joint doctrine events, and exercises. As these inputs are incorporated into joint doctrine, they become institutionalized for future use, a major goal of the JLLP. Insights and lessons learned are routinely sought and incorporated into draft JPs throughout formal staffing of the development process. The JLLIS Website can be found at https://www.jllis.mil (NIPRNET) or http://www.jllis.smil.mil (SIPRNET).

6. Releasability

This publication is not for public release. It is available on demand to holders of a DoD common access card, and upon request to employees and contractors of the United States Government to include members and staff of the executive, legislative, and judicial branches. In the interest of furthering US national security and assisting allies and partners, foreign governments and international defense organizations desiring a copy of joint publications should make their request through their respective foreign liaison officer assigned to the Joint Staff (if applicable), the United States defense attaché or security assistance office in their country, or the appropriate United States combatant command. Requestors of joint doctrine should route their requisition to the Joint Staff J-7, Joint Education and Doctrine Division (js.pentagon.j7.mbx.jedd-support@mail.mil).

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b. The Joint Staff does not print hard copies of JPs for distribution. An electronic version of this JP is available on:

(1) NIPRNET Joint Electronic Library Plus (JEL+) at https://jdeis.js.mil/jdeis/index.jsp (limited to .mil and .gov users with a DoD common access card) and

(2) SIPRNET JEL+ at https://jdeis.js.smil.mil/jdeis/index.jsp.

GLOSSARY

PART I—SHORTENED WORD FORMS (ABBREVIATIONS, ACRONYMS, AND INITIALISMS)

AFTTP	Air Force tactics, techniques, and procedures
AOR	area of responsibility
ATO	air tasking order
ATP	Army techniques publication
BDA	battle damage assessment
C2	command and control
CA	combat assessment
CCDR	combatant commander
CCMD	combatant command
CDA	collateral damage assessment
CDE	collateral damage estimation
CEE	collateral effects estimation
CID	combat identification
CJCSI	Chairman of the Joint Chiefs of Staff instruction
COA	course of action
CONOPS	concept of operations
CONPLAN	contingency plan
CTL	candidate target list
DIA	Defense Intelligence Agency
DoD	Department of Defense
DOJ	Department of Justice
DOS	Department of State
DTRA	Defense Threat Reduction Agency
EMS	electromagnetic spectrum
ETF	electronic target folder
FDA	functional damage and change assessment
FSCM	fire support coordination measure
GEOINT	geospatial intelligence
GITL	global integrated target list
HPT	high-payoff target
HQ	headquarters
HVT	high-value target
IAW	in accordance with
IC	intelligence community
ITO	integrated tasking order

J-2	intelligence directorate of a joint staff
J-2T	joint force deputy directorate for targeting, intelligence directorate
J-3	operations directorate of a joint staff
J-5	plans directorate of a joint staff
JADO	joint all-domain operations
JDPI	joint desired point of impact
JFACC	joint force air component commander
JFC	joint force commander
JFE	joint fires element
JFHQ	joint force headquarters
JIOC	joint intelligence operations center
JIPOE	joint intelligence preparation of the operational environment
JIPTL	joint integrated prioritized target list
JOA	joint operations area
JP	joint publication
JPP	joint planning process
JS	Joint Staff
JTC	joint targeting cycle
JTCB	joint targeting coordination board
JTL	joint target list
JTWG	joint targeting working group
JWAC	Joint Warfare Analysis Center
MCRP	Marine Corps reference publication
MEA	munitions effectiveness assessment
MIDB	modernized integrated database
MOE	measure of effectiveness
MOP	measure of performance
NGA	National Geospatial-Intelligence Agency
NGIC	National Ground Intelligence Center
NJOIC	National Joint Operations and Intelligence Center
NLRP	nonlethal reference point
NSA	National Security Agency
NSL	no-strike list
NTTP	Navy tactics, techniques, and procedures
OA	operational area
OE	operational environment
OPLAN	operation plan
OPORD	operation order
PDA	physical damage and change assessment
PID	positive identification
POW	prisoner of war

ROE	rules of engagement
RTL	restricted target list
SecDef	Secretary of Defense
SJA	staff judge advocate
SME	subject matter expert
TDWG	target development working group
TNL	target nomination list
TSA	target system analysis
TSDA	target system damage assessment
TST	time-sensitive target
US	United States
WMD	weapons of mass destruction

PART II—TERMS AND DEFINITIONS

1. JP 3-60, *Joint Targeting,* 20 September 2024, Active Terms and Definitions

aimpoint. A point associated with a target and assigned for a specific weapon impact. (Original definition #2 approved for removal from the DoD Dictionary.)

candidate target list. A list of entities submitted by component commanders, appropriate agencies, or the joint force commander's staff for further development and inclusion on the joint target list, restricted target list, or the no-strike list. Also called **CTL.** (DoD Dictionary. Source: JP 3-60)

collateral damage. A form of collateral effect that causes unintentional or incidental injury or damage to persons or objects that would not be lawful military targets in the circumstances ruling at the time. (DoD Dictionary. Source: JP 3-60)

collateral effect. Unintentional or incidental effect to an entity that would not be a lawful military target in the circumstances ruling at the time. (Approved for incorporation into the DoD Dictionary.)

combat assessment. The determination of the effectiveness of friendly attack. Also called **CA.** (Approved for incorporation into the DoD Dictionary.)

critical target element. A feature or part of a target that enables it to perform its primary function and, if effectively engaged, should achieve the commander's objective or create a significant effect on that target. Also called **CTE.** (Approved for incorporation into the DoD Dictionary.)

damage criteria. The weapons effects required to create specified levels of damage. (Approved for incorporation into the DoD Dictionary.)

desired mean point of impact. A point designated as the center for impact of multiple weapons or area munitions. (Approved for incorporation into the DoD Dictionary.)

desired point of impact. A precise point associated with a target and assigned as the designated impact point for a single unitary warhead. Also called **DPI.** (Approved for incorporation into the DoD Dictionary.)

distinctive emblems. The red cross, red crescent, red crystal, and other recognized symbols designating persons, places, or equipment that have a protected status under the law of war. (Approved for replacement of "protected emblems" and its definition in the DoD Dictionary.)

dwell time. The length of time a target is expected to remain in one location. (DoD Dictionary. Source: JP 3-60)

dynamic targeting. Targeting that prosecutes targets identified too late or not selected for action in time to be included in deliberate targeting. (DoD Dictionary. Source: JP 3-60)

entity. Within the context of targeting, facilities, individuals, virtual features, equipment, and organizations. (Approved for incorporation into the DoD Dictionary.)

functional damage assessment. The estimate of the effect of military force to degrade or destroy the functional or operational capability of the target to perform its intended mission and on the level of success in achieving operational objectives established against the target. (DoD Dictionary. Source: JP 3-60)

global integrated target list. A list of targets not restricted to a geographic area that reflects joint or restricted validated targets to be prioritized and synchronized inside or outside of a supported combatant commander's area of responsibility. Also called **GITL.** (Approved for inclusion in the DoD Dictionary.)

high-payoff target. A target whose loss to the enemy will significantly contribute to the success of the friendly course of action. Also called **HPT.** (DoD Dictionary. Source: JP 3-60)

high-value target. A target the enemy requires for the successful completion of the mission. Also called **HVT.** (Approved for incorporation into the DoD Dictionary.)

integrated tasking order. An order promulgated by a joint force commander that integrates effects using fires from all domains throughout the operational area. Also called **ITO.** (Approved for inclusion in the DoD Dictionary.)

joint desired point of impact. A unique, alpha-numeric-coded precise aimpoint associated with a target to achieve an explicit weaponeering objective and identified by a three-dimensional (latitude, longitude, elevation) mensurated coordinate. Also called **JDPI.** (DoD Dictionary. Source: JP 3-60)

joint fires element. A staff element that provides recommendations to the operations directorate for fires planning and execution. Also called **JFE.** (Approved for incorporation into the DoD Dictionary.)

joint integrated prioritized target list. A prioritized list of targets approved by the joint force commander that feeds the integrated tasking order/air tasking order process. Also called **JIPTL.** (Approved for incorporation into the DoD Dictionary.)

joint targeting coordination board. A group formed by the joint force commander to accomplish broad targeting oversight functions. Also called **JTCB.** (Approved for incorporation into the DoD Dictionary.)

joint targeting cycle. A sequence of targeting tasks that incorporates the entire procedure from target nomination through engagement and assessment. Also called **JTC.** (Approved for inclusion in the DoD Dictionary.)

joint target list. A consolidated list of validated and unrestricted targets of military significance within a joint force commander's operational area. Also called **JTL.** (Approved for incorporation into the DoD Dictionary.)

master air attack plan. A plan that contains key information that forms the foundation of the air tasking order. Also called **MAAP.** (Approved for incorporation into the DoD Dictionary.)

mensuration. The process of measurement of a feature or location on the Earth to determine its precise latitude, longitude, and elevation. (Approved for incorporation into the DoD Dictionary.)

nonlethal reference point. A unique alphanumeric designator that represents the intended target for creating nonlethal effects, which may not be a precise physical location and is considered an aimpoint. Also called **NLRP.** (Approved for incorporation into the DoD Dictionary.)

no-strike list. A list of entities characterized as protected from the effects of military operations under international law or rules of engagement. Also called **NSL.** (Approved for incorporation into the DoD Dictionary.)

on-call target. Planned target upon which fires are determined using deliberate targeting and triggered, when detected or located, using dynamic targeting. (Approved for incorporation into the DoD Dictionary.)

physical damage assessment. The estimate of the quantitative extent of physical damage to a target. (Approved for incorporation into the DoD Dictionary.)

probability of damage. The likelihood that damage will occur to a target expressed as a percentage or as a decimal. Also called **PD.** (Approved for incorporation into the DoD Dictionary.)

reattack recommendation. An assessment provided to the commander derived from the results of battle damage assessment and munitions effectiveness assessment. Also called **RR.** (Approved for incorporation into the DoD Dictionary.)

restricted target. A valid target that has specific restrictions placed on the actions authorized against it. (Approved for incorporation into the DoD Dictionary.)

restricted target list. A list of restricted targets nominated by elements of the joint force and approved by the joint force commander or directed by higher authorities. Also called **RTL.** (Approved for incorporation into the DoD Dictionary.)

scheduled target. Planned target upon which fires or other actions are scheduled for prosecution at a specified time. (DoD Dictionary. Source: JP 3-60)

target. An entity that performs a function for the adversary or enemy considered for possible engagement. (Approved for incorporation into the DoD Dictionary.)

target acquisition. The detection, identification, and location of a target in sufficient detail to permit the effective employment of capabilities that create the required effects. Also called **TA.** (DoD Dictionary. Source: JP 3-60)

target analysis. An examination of potential targets to determine military importance, priority of engagement, and capabilities required to create a desired effect. (DoD Dictionary. Source: JP 3-60)

target component. A set of targets within a target system performing a similar function. (DoD Dictionary. Source: JP 3-60)

target development. The systematic examination of potential target systems—and their components, individual targets, and elements of targets—to determine the necessary type and duration of an engagement. (Approved for incorporation into the DoD Dictionary.)

targeteer. An individual who has completed requisite training and who develops and assesses targets. (Approved for incorporation into the DoD Dictionary.)

target element. Specific features of a target entity that enable it to function. (Approved for incorporation into the DoD Dictionary.)

target engagement authority. The authority and responsibility to engage targets, which may be delegated to subordinate commanders responsible for operational areas. (Approved for inclusion in the DoD Dictionary.)

target folder. A folder, hardcopy or electronic, containing target intelligence and related materials prepared for planning and executing action against a specific target. (DoD Dictionary. Source: JP 3-60)

targeting objective. An objective nested under an operational military objective that directs targeting against a specific target system or target component. (Approved for inclusion in the DoD Dictionary.)

target intelligence. Intelligence that portrays and locates the elements of a target or target complex and indicates its vulnerability and relative importance. (Approved for incorporation into the DoD Dictionary.)

target materials. Graphic, textual, tabular, digital, video, or other presentations of target intelligence primarily designed to support operations against designated targets by one or more weapon(s) systems. Also called **TM.** (Approved for incorporation into the DoD Dictionary.)

target nomination list. A prioritized list of targets drawn from the joint target list, or restricted target list, and nominated by component commanders, appropriate agencies, or the joint force commander's staff for inclusion on the joint integrated prioritized target list. Also called **TNL.** (DoD Dictionary. Source: JP 3-60)

target of opportunity. A target identified too late or not selected for action in time to be included in deliberate targeting that, when detected or located, meets criteria specific to achieving objectives and is processed using dynamic targeting. (Original definition #2 approved for removal from the DoD Dictionary.)

target system. All the targets situated in a particular geographic area and functionally related or a group of targets that are so related that their destruction will produce some particular effect desired by the attacker. (DoD Dictionary. Source: JP 3-60)

target system analysis. An all-source examination of potential target systems to determine relevance to stated objectives, military importance, and priority of attack. Also called **TSA.** (DoD Dictionary. Source: JP 3-60)

target system component. A related group of entities within a target system that performs or contributes toward a similar function. (Approved for incorporation into the DoD Dictionary.)

target system damage assessment. The broad assessment of the overall impact and effectiveness of military force applied against the operation of an enemy target system, significant subdivisions of the system, or total combat effectiveness relative to the operational objectives established. Also called **TSDA.** (Approved for inclusion in the DoD Dictionary.)

target validation. A part of the target development process that ensures candidate targets meet the objectives and criteria outlined in the commander's guidance, the law of war, and rules of engagement. (Approved for inclusion in the DoD Dictionary.)

target validation authority. The authority vested in the joint force commander to validate targets, approve changes to target lists, and approve target restrictions. (Approved for inclusion in the DoD Dictionary.)

time-sensitive target. A joint force commander-validated target or set of targets requiring immediate response because it is a highly lucrative, fleeting target of opportunity or it poses (or will soon pose) a danger to friendly forces. Also called **TST.** (DoD Dictionary. Source: JP 3-60)

unanticipated target. A target of opportunity that was unknown or not expected to exist in the operational environment. (DoD Dictionary. Source: JP 3-60)

unscheduled target. A target of opportunity that is known to exist in the operational environment. (DoD Dictionary. Source: JP 3-60)

vetting. A part of target development that assesses the accuracy of the supporting intelligence to targeting. (DoD Dictionary. Source: JP 3-60)

vulnerability. 1. The susceptibility of a nation or military force to any action by any means through which its war potential or combat effectiveness may be reduced or its will to fight diminished (JP 3-01). 2. The characteristics of a system that cause it to be incapable of performing a designated function or mission when subjected to a specific threat action. (Definition #2 approved for incorporation into the DoD Dictionary.)

weaponeer. An individual who has completed requisite training to determine the means required to create a desired effect on a given target. (DoD Dictionary. Source: JP 3-60)

weaponeering. The process of determining the specific means required to create a desired effect on a given target. (DoD Dictionary. Source: JP 3-60)

2. Terms Removed from the DoD Dictionary

- **Supersession of JP 3-60, *Joint Targeting*, 28 September 2018:** active defense; damage assessment; passive defense; physical characteristics; planned target; validation

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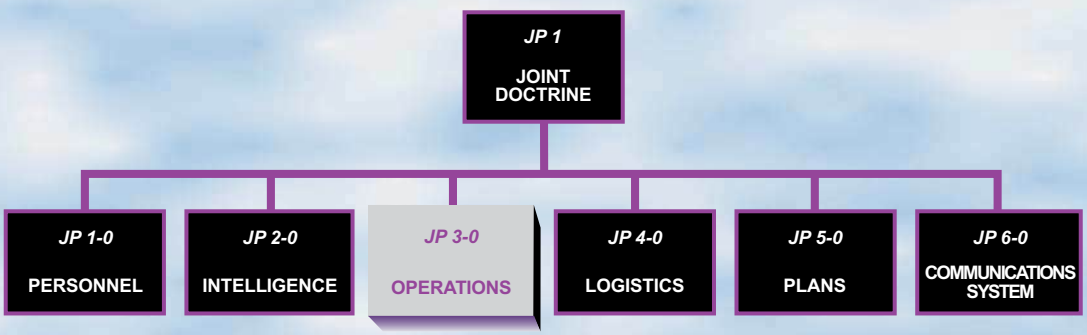

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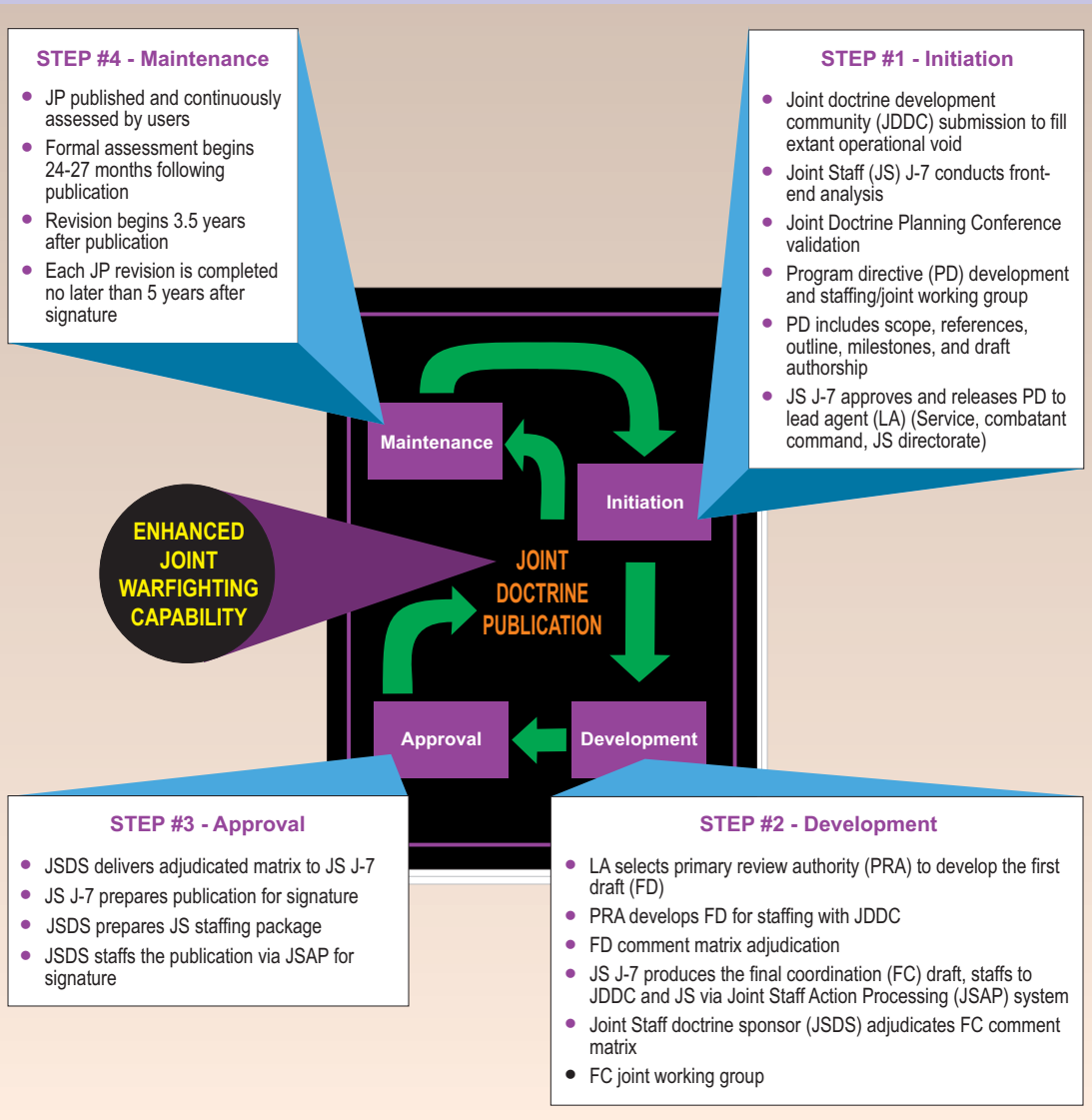


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